

CERTIFICATE

I, Hisato Kuroiwa,
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do solemnly and sincerely declare that I am conversant with the English and Japanese
languages and am a competent translator thereof, and that the attached document is, to
the best of my knowledge and belief, a true and correct translation of the Japanese
Patent Application No. 2002-239289 filed on August 20, 2002 in the name of Game
Server and Program.

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This is to certify that the annexed is a true copy of the following application as filed with this Office.

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[Title of the Invention] Game Server and Program

[Claims]

[Claim 1] A game server being capable of transmitting
5 and receiving data to and from a plurality of user terminal
devices via a communication line, the game server comprising:

point providing means for providing a point to a player
on receipt of a correct answer from the player with a difference
detection game executed on a display provided to each of the
10 user terminal devices; and

image display means for displaying simultaneously on the
display a reference image for reference and a plurality of
difference images to find differences.

[Claim 2] The game server according to Claim 1, wherein
15 the point providing means sets an obtainable number of points
for each of the plurality of difference images.

[Claim 3] The game server according to Claim 1 or 2,
wherein each of the plurality of difference images includes
one difference from the reference image, and the game server
20 comprising:

image selecting means for letting the player select one
difference image out of the plurality of difference images to
play the difference detection game.

[Claim 4] A game server being capable of transmitting
25 and receiving data to and from a plurality of user terminal
devices via a communication line, the game server comprising:
providing means for providing a point or prize to a player

on receipt of a correct answer from the player with a difference detection game executed on a display provided to each of the user terminal devices;

image display means for simultaneously displaying a
5 reference image for reference and a plurality of difference images on the display;

image selecting means for letting the player select one difference image out of the plurality of difference images for playing the difference detection game; and

10 a correspondence data set for establishing a correspondence between each of the plurality of difference images and the point or prize; and

corresponding image display means for displaying a corresponding image on the display by selecting the
15 correspondence data set corresponding to any one of the plurality of difference images on receipt of the correct answer from the player.

[Claim 5] A program running on a game server being capable of transmitting and receiving data to and from a
20 plurality of user terminal devices via a communication line, the server executing a difference detection game on a display provided to each of the user terminal devices, the program executing the steps of:

providing a point to the player on receipt of a correct
25 answer from the player playing the difference detection game; and

simultaneously displaying a reference image for reference

and a plurality of difference images for the difference detection game on the display.

[Detailed Description of the Invention]

[0001]

5 [Field of the Invention]

This invention relates to a game server and program.

[0002]

[Related Art]

A difference detection game is one of the games that have
10 long been popular among the general public since the game is
simple in terms of its game structure and in terms of its rules
and it is also good for mental exercise. Here, the difference
detection game may refer to find-the-differences or spot-the
differences game or puzzle. In the game, two pictures are
15 typically shown side by side so that a player can compare them
to find the differences.

[0003]

This difference detection game has been played by use
of images drawn on paper, however, recently, this game has also
20 been played as an arcade game. In these games, generally, a
reference image for reference in difference detection and a
difference image were placed side by side, and a player played
a game while comparing these.

[0004]

25 [Problem to be Solved by the Invention]

Since a game is played in a condition where a reference
image and a difference image are placed side by side, the

difficulty level of a difference detection game has been determined merely at a level where differences are made at difficult-to-detect parts or made at easy-to-find parts. Concretely, in order to heighten the difficulty level, images
5 are drawn in detail, and difference parts are made in background parts having no relation to mainly drawn images.

【0005】

However, players who are used to playing difference detection games can easily find differences however detailed
10 the difference parts are made, therefore, such players soon grow tired of difference detection games in many cases.

【0006】

On the other hand, owing to the development in communication technology in recent years, so-called net games,
15 which are played via the Internet, have become popular. In these net games, enjoyment different from that of the prior one-person game, such that players play a game distributed from a server on terminal devices to compete by points, has been created.

20 **【0007】**

It is an object of the present invention to ease the difficulty level setting of a so-called difference detection game, have enriched variations in this difficulty level setting and acquiring points, and moreover, it is an object to provide
25 a difference detection game which a player can enjoy without growing tired of it.

【0008】

[Means to Solve Problem]

It is an object of the present invention to provide a game server which is capable of transmitting and receiving data to and from a plurality of user terminal devices via a communication line, provides a point to a player on receipt of a correct answer from the player with a difference detection game executed on a display provided to each of the user terminal devices, and displays simultaneously on the display a reference image for reference and a plurality of difference images to find differences.

[0009]

More concretely, according to the present invention, the following can be provided.

[0010]

(1) A game server being capable of transmitting and receiving data to and from a plurality of user terminal devices via a communication line, the game server comprising: point providing means for providing a point to a player on receipt of a correct answer from the player with a difference detection game executed on a display provided to each of the user terminal devices; and image display means for displaying simultaneously on the display a reference image for reference and a plurality of difference images to find differences.

[0011]

With the present invention, a game server being capable of transmitting and receiving data to and from a plurality of user terminal devices via a communication line can be provided

to include point providing means for providing a point to a player on receipt of a correct answer from the player with a difference detection game executed on a display provided to each of the user terminal devices; and image display means for
5 displaying simultaneously on the display a reference image for reference and a plurality of difference images to find differences.

【0012】

When this invention's game server is used, since a game
10 can be played, for example, in connection with a communication line or after downloading game data from the server, a terminal device user can play a difference detection game anytime he/she likes whenever he/she wants to play it.

【0013】

15 In addition, it is also possible to provide higher game characteristics by, for example, setting difficulty levels in stages for a plurality of difference images.

【0014】

(2) The game server according to Claim 1, wherein the
20 point providing means sets an obtainable number of points for each of the plurality of difference images.

【0015】

With the present invention, a game server described in
(1) can be provided to individually set points to be provided
25 to the player by the point providing means in the respective difference images of the plurality of difference images.

【0016】

In addition, if a player can easily find a difference in a difference image and cannot easily find a difference in another difference image, these points can have a difference according to the difficulty levels.

5 **【0017】**

For example, if players can receive prizes according to the points, the game can be provided as a game where acquiring a difference in points causes a difference in grades of prizes to be received.

10 **【0018】**

(3) The game server according to Claim 1 or 2, wherein each of the plurality of difference images includes one difference from the reference image, and the game server comprising: image selecting means for letting the player
15 select one difference image out of the plurality of difference images to play the difference detection game.

【0019】

[Effect]

With the present invention, each difference image of the
20 plurality of difference images has a difference from the reference image at one point, and a game server described in (1) or (2) can be provided to include difference image selecting means for selecting which difference image out of the plurality of difference images the player uses to play the difference
25 detection game.

【0020】

By such a construction, the player can select a difference

image which he/she wants to answer and play a difference detection game by use of this difference image. In addition, if a difference is made in points obtained from respective difference images, the player can enjoy a difference detection game in a personal manner by performing an operation such as to select a difference image with which a desirable point can be obtained.

【0021】

(4) A game server being capable of transmitting and receiving data to and from a plurality of user terminal devices via a communication line, the game server comprising: providing means for providing a point or prize to a player on receipt of a correct answer from the player with a difference detection game executed on a display provided to each of the user terminal devices; image display means for simultaneously displaying a reference image for reference and a plurality of difference images on the display; image selecting means for letting the player select one difference image out of the plurality of difference images for playing the difference detection game; and a correspondence data set for establishing a correspondence between each of the plurality of difference images and the point or prize; and corresponding image display means for displaying a corresponding image on the display by selecting the correspondence data set corresponding to any one of the plurality of difference images on receipt of the correct answer from the player.

【0022】

With the present invention a game server being capable of transmitting and receiving data to and from a plurality of user terminal devices via a communication line can be provided to include providing means for providing a point or prize to a player on receipt of a correct answer from the player with a difference detection game executed on a display provided to each of the user terminal devices; image display means for simultaneously displaying a reference image for reference and a plurality of difference images on the display; image selecting means for letting the player select one difference image out of the plurality of difference images for playing the difference detection game; and a correspondence data set for establishing a correspondence between each of the plurality of difference images and the point or prize; and corresponding image display means for displaying a corresponding image on the display by selecting the correspondence data set corresponding to any one of the plurality of difference images on receipt of the correct answer from the player.

【0023】

When this invention's game server is used, since a game can be played, for example, in connection with a communication line or after downloading game data from the server, a terminal device user can play a difference detection game anytime he/she likes whenever he/she wants to play it.

25 【0024】

In addition, a plurality of difference images have been prepared for a reference image and these can be simultaneously

displayed on the display of the terminal device, therefore,
not only provided is an effect such that a plurality of difference
detection games can be simultaneously enjoyed, but also it is
also possible to provide higher game characteristics by, for
5 example, setting difficulty levels in stages for a plurality
of difference images.

【0 0 2 5】

In addition, by such a construction, for example, if there
is a difference in difficulty levels in eliciting a correct
10 answer from respective difference images, that is, if a player
can easily find a difference in a difference image and cannot
easily find a difference in another difference image, these
points can have a difference according to the difficulty levels,
or prizes to be provided can have a difference in grades.
15 Consequently, the player can enjoy the game while aiming at
obtaining higher gains.

【0 0 2 6】

(5) A program running on a game server being capable of
transmitting and receiving data to and from a plurality of user
20 terminal devices via a communication line, the server executing
a difference detection game on a display provided to each of
the user terminal devices, the program executing the steps of:
providing a point to the player on receipt of a correct answer
from the player playing the difference detection game; and
25 simultaneously displaying a reference image for reference and
a plurality of difference images for the difference detection
game on the display.

【0027】

With the present invention, a game server being capable of transmitting and receiving data to and from a plurality of user terminal devices via a communication line can be provided
5 to execute a difference detection game on a display provided to each of the user terminal devices, the program executing the steps of: providing a point to the player on receipt of a correct answer from the player playing the difference detection game; and simultaneously displaying a reference image for
10 reference and a plurality of difference images for the difference detection game on the display.

【0028】

When such a program is used in a game server, since a game can be played, for example, in connection with a
15 communication line or after downloading game data from the server, a terminal device user can play a difference detection game anytime he/she likes whenever he/she wants to play it.

【0029】

In addition, a plurality of difference images have been
20 prepared for a reference image and these can be simultaneously displayed on the display of the terminal device, therefore, not only provided is an effect such that a plurality of difference detection games can be simultaneously enjoyed, but also it is also possible to provide higher game characteristics by, for
25 example, setting difficulty levels in stages for a plurality of difference images.

【0030】

[Detailed Description of Embodiment of the Invention]

Hereinafter, embodiments of the present invention will be described in detail based on the drawings.

[Overall configuration]

5 【0031】

An overall configuration of an image information processing system by the present invention will be described.

【0032】

Fig. 1 is a view showing an overall configuration of a
10 difference detection game system of the present embodiment.
As shown in Fig. 1, a difference detection game system of the
present embodiment is composed of a server 10, which is a game
server to control the whole difference detection game, and a
terminal device 20, a portable terminal device 25, or a cellular
15 telephone 30, which is connected to the server 10 via the Internet
and on which a user plays a difference detection game. Here,
the user terminal device may comprise the terminal device, the
portable terminal device, the cellular telephone, and a
combination thereof.

20 【0033】

As described above, the terminal device 20, portable
terminal device 25, and cellular telephone 30 are connected
to the server 10 via the Internet and receive, from this server
10, a distribution of a difference detection game, control in
25 progress of a game (control mainly related to an image display),
a distribution of game results, etc.

【0034】

Herein, in the following, a description will be given in a case where a difference detection game is played by the terminal device 20 connected to the server 10 as a first embodiment, and as a second embodiment, a description will be given in a case where a difference detection game is played by the cellular telephone 30 connected to the server 10.

【0035】

<<First embodiment>>

Hereinafter, as a first embodiment, a description will be given in a case where a difference detection game is played by the terminal device 20 connected to the server 10.

【0036】

[Server configuration]

Hereinafter, a block diagram showing a configuration of a server 10 of a part of a difference detection game system of the present embodiment will be shown in Fig. 2.

【0037】

As shown in Fig. 2, the server 10 is composed of a CPU 42, a ROM 43, a RAM 44, a communication interface 45, and a hard disk 46 connected to a data bus BUS.

【0038】

The CPU 42 is structured so as to execute various processes according to programs stored in the ROM 43. Namely, the CPU 42 receives, via the Internet connected by the communication interface 45, information from the terminal device 20 and stores the same in the RAM 44. This information includes information to identify a player who plays a difference detection game on

the terminal device 20.

【0039】

The aforementioned programs stored in the ROM 43 include a program for communication with the terminal device 20 and
5 a program to display an image on a display provided in the terminal device 20.

【0040】

The hard disk 46 stores, as will be described later, identification data of players who have played a difference
10 detection game in this difference detection game system, number of times utilized, age, gender, number of times winning prizes as a database of player information.

【0041】

[Terminal device configuration]

15 Next, a block diagram showing a configuration of a terminal device 20 of a part of a difference detection game system of the present embodiment will be shown in Fig. 3.

【0042】

20 The terminal device 20 is composed of a CPU 61, a ROM 62, a RAM 63, a hard disk 64, a display device 65, a communication interface circuit 66, and an inputting operation part 67.

【0043】

25 In the hard disk drive 64, programs to execute processes as will be described later are recorded. In addition, the communication interface circuit 66 is, as shown in Fig. 1, connected to the server 10 via the Internet so as to communicate therewith.

【0044】

The aforementioned programs stored in the hard disk drive 64 include a program for communications with the server 10 and a program to display a game image distributed from the server 10 on the display device 65.

【0045】

In addition, the inputting operation part 67 is for input of a part judged to be a difference in a difference detection game and for carrying out an operation to transmit the answer to the server 10.

【0046】

[Action]

Next, based on a timing chart of Fig. 4, a description will be given of actions carried out between the server 10 and terminal device 20 of a difference detection game system according to the present embodiment.

【0047】

First, when a difference detection game is started, player information to identify a player who plays the game on that terminal device 20 is transmitted from the terminal device 20 to the server 10.

【0048】

Next, in the server 10, a process to set a difficulty level of the difference detection game is carried out (step A11). This difficulty level setting process is executed based on the contents of the player information. This difficulty level setting process will be described later.

【0049】

When the process to set a difficulty level ends, a process to transmit signals to control the game from the server 10 to the terminal device 20 is executed. In the game control signals, signals to control progress in the difference detection game according to the difficulty level set in the former step A11 are mainly included.

【0050】

Next, data concerning an answer of the difference detection game is transmitted from the terminal device 20 to the server 10. The answer has been inputted by the player, who plays the difference detection game on the terminal device 20, by means of input means provided on the terminal device 20.

【0051】

When answer data is received, a game result collating process is executed in the server 10 (step A12). The game result collating process refers to a process to collate as to whether or not answer data transmitted from the terminal device 20 is a correct answer and to tabulate its point.

【0052】

When the game result collating process ends, a game result is transmitted from the server 10 to the terminal device 20.

【0053】

As in the above, in a difference detection game system according to the present embodiment, transmissions and receptions of data and signals are carried out while the server

10 and terminal device 20 are connected via communication lines.

【0054】

[Server processes]

Next, based on a flowchart of Fig. 5, a description will
5 be given of processes carried out in the server 10 of a difference
detection game system according to the present embodiment.

【0055】

First, the CPU 42 of the server 10 executes a process
to identify a player (step S11).

10 【0056】

The process to identify a player refers to a process to
judge, based on information (identification number data) to
identify a player transmitted from the terminal device 20, as
to whether or not the player is a registered player. In this
15 process, if a player who plays a difference detection game in
the terminal device 20 is a player who has already been registered,
the player is identified, and if he/she is a player who has
not been registered yet, the player's initial registration is
carried out. When the process to identify a player ends, the
20 CPU 42 shifts the process to step S12.

【0057】

Next, the CPU 42 executes a process to refer to player
data (step S12).

【0058】

25 The player data refers to data which is recorded for each
player identified in the former step S11, and this is, concretely,
data as shown in Fig. 6. For this player data, as shown in

Fig. 6, in addition to identification number data indicating each player, the number of times the player has utilized difference detection games (number of times utilized), the player's age, gender, and number of times winning prizes are recorded.

【0059】

Herein, such player data is stored and saved on the hard disk 46 of the server 10. Moreover, in the present embodiment, although players are managed in terms of the items shown in Fig. 6, the present invention is not limited hereto.

【0060】

When the process to refer to player data ends, the CPU 42 shifts the process to step S13.

【0061】

Next, the CPU 42 executes a process to set a difficulty level (step S13).

【0062】

A "difficulty level" refers to an evaluation with an index of easiness in eliciting correct answers in a difference detection game. Herein, a "difficulty level" used in the present embodiment is not expressed as a concrete numerical value but is absolutely evaluated by rules of thumb.

【0063】

In the present step's process, the server 10 of the present embodiment carries out, based on the contents of player data referred to in the former step S12, a difficulty level setting to match the player's level. The details of the difficulty

level setting process will be described later. When the difficulty level setting process ends, the CPU 42 shifts the process to step S14.

【0064】

5 Next, the CPU 42 executes a game control process (step S14).

【0065】

10 The game control process refers to a process to carry out control of the whole difference detection game by transmitting control signals and data from the server 10 to the terminal device 20 based on the difficulty level set in the former step S13. Moreover, this game control process may be carried out in a condition where the server 10 and terminal device 20 are connected via a communication line or may utilize
15 a game program prepared in the server 10 by downloading from the terminal device 20. When the process to control the game ends, the CPU 42 shifts the process to step S15.

【0066】

20 Next, the CPU 42 executes a process to collate a game result (step S15).

【0067】

25 The process to collate a game result refers to a process to collate an answer of the difference detection game transmitted from the terminal device 20 with a correct answer prepared in the server 10 and tabulate a point. In addition, the process also includes a process to transmit the collated result and tabulated point to the terminal device 20.

【0068】

The CPU 42 records answer data from the terminal device 20, which has been received via the communication interface 45, on the RAM 44, collates the same with correct answer data read out from the hard disk 46, and judges as to whether or not the answer is correct. If it is judged that the answer is correct, a point concerning the correct answer is tabulated by the CPU 42.

【0069】

Herein, in a difference detection game system of the present embodiment, a point according to a correct answer is tabulated simply based on a criterion of whether or not the answer is correct, however, the present invention is not limited hereto, and the point may be changed according to the speed at which the player elicits a correct answer, that is, the number of times of reproduction of the reference image and difference image.

【0070】

In addition, the tabulated point is, in response to an instruction from the CPU 42, transmitted to the terminal device 20 via the communication interface 45. Concretely, together with a message "Congratulations on your winning ○○ points!", the point is displayed on the display device 65 of the terminal device 20. Moreover, if a difference detection game system such that a player can win a prize according to the point is utilized, a message such as "You won ΔΔ. Congratulations!" may be used.

【0071】

When the above processes end, the CPU 42 immediately ends this subroutine.

【0072】

5 [Difficulty level setting process]

Next, based on Fig. 7, a description will be given of a subroutine of a difficulty level setting process, which is called up in the former step S13 of Fig. 5.

【0073】

10 First, the CPU 42 executes a process to set a prize (step S21).

【0074】

The process to set a prize refers to a process to set, based on the player data referred to in the former step S12 (refer to Fig. 5), a prize which fits the identified player's age and gender. In a difference detection game of the present embodiment, if the player answers a correct answer in a difference detection game, he/she can gain a point and/or a prize, and both of these may be given to the player, and either
20 may be given to the player. When the process to set a prize ends, the CPU 42 shifts the process to step S22.

【0075】

Next, a process to judge as to whether or not the number of times utilized is greater than 30 is executed (step S22).

25 【0076】

The "number of times utilized" refers to the number of times in which the player has utilized a difference detection

game system of the present embodiment, and this is, concretely, a numerical value in the item "number of times utilized" of the player data recorded on the hard disk 46 (refer to Fig. 6).

5 **【0077】**

The CPU 42 refers to numerical value data recorded in the item of the concerned player's "number of times utilized" from the hard disk 46 and compares it with a numerical value 30. In the present step, if an affirmative result is obtained, this indicates that "the player frequently utilizes the concerned difference detection game," and at this time, the CPU 42 executes a process of step S23. On the other hand, if a negative result is obtained in the present step, this indicates that "the player does not frequently utilize the concerned difference detection game," and at this time, the CPU 42 executes a process of step S25.

15 **【0078】**

Herein, in the present embodiment, a numerical value of 30 is employed as a criterion for measuring the greatness of frequency at which the player has utilized the concerned difference detection game system, however, the present invention is not limited hereto, and the criterion can be set by an administrator of the difference detection game system to a desirable value.

25 **【0079】**

Next, the CPU 42 executes a process to shorten a switching time (step S23).

【0080】

A "switching time" means a time for timing where a reference image for reference in a difference detection game and a difference image are switched over. In Fig. 8, shown is a display example when a reference image and a difference image are displayed on the display device 65 of the terminal device 20. Fig. 8 (a) is a display example of a reference image, and Fig. 8 (b) is a display example of a difference image. These images are alternatively displayed on the display device 65 of the terminal device 20.

【0081】

Herein, although, in Fig. 8, the reference image and difference image have been drawn as if they were still images, a difference detection game of the present embodiment assumes that the game is played with animated images. In addition, since effects of the present invention are not necessarily ones that can be obtained only with animated images, the images may be still.

【0082】

In the present step, intervals to alternatively display these are shortened, thus providing a condition where the player can easily elicit a correct answer. The CPU 42 sets a shortened switching time and controls, based thereon, display of the reference image and difference image. When the switching time shortening process ends, the CPU 42 shifts a process to step S24.

【0083】

Next, the CPU 42 executes a process to set a hint image (step S24).

【0084】

A "hint image" means an image where marks have been put
5 in the vicinity of parts where differences exist. A display
example of a hint image is shown in Fig. 9. In Fig. 9, parts
which are different in the difference image of Fig. 8 (b) compared
with the reference image of Fig. 8 (a) are circled. The player
plays a difference detection game while referring to this hint
10 image.

【0085】

Similar to the image file of a difference detection game,
the hint image has been recorded on the hard disk 46, and this
is displayed based on an instruction from the CPU 42. When
15 the process to set a hint image ends, the CPU 42 immediately
ends this subroutine.

【0086】

By carrying out processes from step S22 to step S24, in
a difference detection game system of the present embodiment,
20 it becomes possible to refer to utilization frequency of a player
who utilizes the same, judge a game player whose utilization
frequency is high to be a "frequent user," and lower the
difficulty level of the game.

【0087】

25 On the other hand, in step S22, if it is judged that the
number of times utilized has not exceeded 30, the CPU 42 executes
a process to judge as to whether or not a number of times winning

prizes/a number of times utilized is greater than 0.05 (step S25).

【0088】

In the present step's process, the CPU 42 tabulates a number of times winning prizes/a number of times utilized and compares the same with a reference value of 0.05, whereby the greatness of frequency at which the player has won prizes is judged. Concretely, the CPU 42 reads out, out of the table shown in Fig. 6, numerical value data recorded in the item "number of times utilized" and numerical value data recorded in the item "number of times winning prizes," carries out, based on the values, a process to tabulate a number of times winning prizes/a number of times utilized, and compares the same with a reference value of 0.05.

15 **【0089】**

If an affirmative result is obtained in the present step, this indicates that the frequency of a player's winning prizes is high, and at this time, the CPU 42 shifts the process to step S23. On the other hand, if a negative result is obtained in the present step, this indicates that the frequency of a player's winning prizes is low, and at this time, the CPU 42 shifts the process to step S26.

【0090】

Herein, in the present embodiment, the numerical value of 0.05 is employed as a criterion for measuring the greatness of frequency at which the player has won prizes, however, the present invention is not limited hereto, and the criterion may

be set by an administrator of the difference detection game system to a desirable value. Moreover, in the present embodiment, a game condition is changed depending on the state of a player's winning "prizes," however, the present invention
5 is not limited hereto, and a game condition may be changed by the state of a player's winning "points."

【0091】

Next, the CPU 42 executes a process to extend a switching time (step S26).

10 **【0092】**

A "switching time" refers to, as described above, a time for timing where a reference image for reference in a difference detection game and a difference image are switched over. In the present step, intervals to alternatively display these are
15 extended, thus providing a condition where the player cannot easily elicit a correct answer. The CPU 42 sets an extended switching time and controls, based thereon, display of the reference image and difference image. When the switching time extending process ends, the CPU 42 immediately ends this
20 subroutine.

【0093】

By the above processes, in a difference detection game system of the present embodiment, it becomes possible to change a difference detection game difficulty level according to the
25 player's utilization frequency and state of winning prizes (points).

【0094】

[Terminal device processes]

Next, with reference to Fig. 10, a description will be given of processes carried out in the terminal device 20.

【0095】

5 The CPU 61 of the terminal device 20 executes a process to judge as to whether or not images have been received (step S31).

【0096】

10 The images mean a reference image for reference in difference detection and a difference image. These images are, in the present embodiment, animated images as described above and are distributed from the server 10 via a communication line. If it is judged that the images have not been received, the CPU 61 carries out a determination of step S31 again. On the
15 other hand, if it is judged that the images have been received, the CPU 61 shifts the process to step S32.

【0097】

Next, the CPU 61 executes a process to display images (step S32).

20 【0098】

 The process to display images refers to a process to display images received in the former step S31 on the display device 65 of the terminal device 20. This image displaying process is, as described above, for displaying these images on the
25 display device 65 in accordance with switching timing determined in the server 10. When the process to display images ends, the CPU 61 shifts the process to step S33.

【0099】

Next, a process to judge as to whether or not a game has been finished is executed (step S33).

【0100】

5 A determination as to whether or not a game has been finished is carried out based on whether or not the CPU 61 has ended processes to switch over images. In a difference detection game of the present embodiment, a time or a number of times in which images are displayed for the player has been set, and
10 when this predetermined time or number of times is completed, the process to display images on the display device 65 is finished. Thereby, the CPU 61 detects that the game has been finished. If it is judged that the game has not been finished, the CPU 61 carries out a process of step S33 again. On the other hand,
15 if it is judged that the game has been finished, the CPU 61 shifts the process to step S34.

【0101】

Next, the CPU 61 executes a process to judge as to whether or not an answer has been inputted (step S34).

20 【0102】

 In a difference detection game of the present invention, as described above, a difference detection game is played with animated images. When a player inputs an answer of the difference detection game, this is carried out in such a manner
25 as to stop, when a difference is displayed in the animated image, the image at this part and point out the difference part by an operation of the inputting operation part 67.

【0103】

In the present step, the CPU 61 judges as to whether or not the player playing the difference detection game has inputted an answer of the game through the inputting operation part 67 of the terminal device 20. If it is judged that no answer has been inputted, the CPU 61 carries out a determination of step S34 again. On the other hand, if it is judged that an answer has been inputted, the CPU 61 shifts the process to step S35.

【0104】

10 Next, the CPU 61 executes a process to transmit an answer (step S35).

【0105】

In the present step, answer data inputted by the player in step S34 is transmitted via the communication interface circuit 66 of the terminal device 20 to the server 10. When the process to transmit an answer ends, the CPU 61 shifts the process to step S36.

【0106】

20 Next, the CPU 61 shifts to a standby mode for a game result (step S36).

【0107】

Herein, the "game result" refers to an incoming game result which is transmitted from the server 10 in response to a player's answer transmitted to the server 10 in the former step S35, that is, whether or not the answer was correct, and a point if the answer was correct. In the present step, the terminal device 20 is in a standby mode for this incoming game result

transmitted from the server 10.

【0108】

Next, the CPU 61 executes a process to judge as to whether or not a game result has been received (step S37).

5 **【0109】**

In the present step, if it is judged that a game result has not been received, the CPU 61 returns the process to step S36 again and shifts to a standby mode for a game result. On the other hand, in the present step, if it is judged that a
10 game result has been received, the CPU 61 displays the game result on the display device 65 of the terminal device 20 then immediately ends this subroutine.

【0110】

Moreover, in the above description, difficulty level
15 setting of a difference detection game is carried out by adjusting the switching time between a reference image and a difference image, however, the present invention is not limited hereto, and difficulty level setting can also be carried out by a method as described in the following, whereby the object
20 of the present invention can be realized.

【0111】

Hereinafter, based on Fig. 11, another embodiment of the difficulty level setting process will be described. In the following embodiment, a description will be given of a difference
25 detection game system wherein a difference detection game is structured so that a plurality of difference images have been prepared in advance in regard to one reference image and the

game is proceeded by displaying the reference image and plurality of difference images in a lump on the terminal device and selecting a difference image which the player wishes to answer.

【0 1 1 2】

5 Fig. 11 is a flowchart concerning processes executed in the server 10.

【0 1 1 3】

First, the CPU 42 of the server 10 executes a process to refer to the difficulty level data of each image (step S41).

10 【0 1 1 4】

As described above, in a difference detection game of the present embodiment, a plurality of difference images have been prepared. These difference images are different in difficulty levels (easiness in eliciting a correct answer) depending on the types, and as will be described later, points and prizes have been set according to difficulty levels of these. In the present step, the CPU 42 carries out a process to read out difficulty level data provided for each difference image from the hard disk 46. When the process to refer to difficulty level data ends, the CPU 42 shifts the process to step S42.

20 【0 1 1 5】

Next, the CPU 42 executes a process to set a point (step S42).

【0 1 1 6】

25 The point setting process refers to a process to set, based on difficulty level data of each difference image referred to in the former step S41, a point according to the difficulty

level. When the point setting process ends, the CPU 42 shifts the process to step S43.

【0117】

Next, the CPU 42 executes a process to set a prize (step
5 S43).

【0118】

The process to set a prize refers to a process to set, based on a point of each difference image set in the former step S42, a prize suitable for the point. In a difference
10 detection game system of the present embodiment, if the player answers a correct answer in a difference detection game, he/she can gain a point and/or a prize, and both of these may be given to the player, and either may be given to the player. When the process to set a prize ends, the CPU 42 shifts the process
15 to step S44.

【0119】

Next, a process to judge as to whether or not the number of times utilized is greater than 30 is executed (step S44).

【0120】

20 A "number of times utilized" refers to a number of times in which the player has utilized a difference detection game system of the present embodiment, and this is, concretely, a numerical value in the item "number of times utilized" of the player data recorded on the hard disk 46 (refer to Fig. 6).

25 【0121】

The CPU 42 refers to numerical value data recorded in the item of the concerned player's "number of times utilized"

from the hard disk 46 and compares it with a numerical value 30. In the present step, if an affirmative result is obtained in the present step, this indicates that "the player frequently utilizes the concerned difference detection game," and at this time, the CPU 42 executes a process of step S45. On the other hand, if a negative result is obtained in the present step, this indicates that "the player does not frequently utilize the concerned difference detection game," and at this time, the CPU 42 executes a process of step S46.

10 【0 1 2 2】

Herein, in the present embodiment, a numerical value of 30 is employed as a criterion for measuring the greatness of frequency at which the player has utilized the concerned difference detection game system, however, the present invention is not limited hereto, and the criterion can be set by an administrator of the difference detection game system to a desirable value.

 【0 1 2 3】

Next, the CPU 42 executes a process to select an image (step S45).

 【0 1 2 4】

"Image selection" is a process to determine, out of a plurality of difference images prepared for the player's answering in a difference detection game, which difference image to display for the player. In a difference detection game of the present embodiment, the game's difficulty level is changed according to the utilization frequency of a player utilizing

the same. In a difference detection game where a plurality of difference detection images have been prepared in advance, such a change in difficulty levels is carried out by carrying out a process to select and display, for a so-called "frequent user," an image of a low difficulty level.

【0 1 2 5】

Concretely, the CPU 42 selects, based on difficulty level data referred to in the former step S41, images of a low difficulty level and these are displayed on the display device 65 of the terminal device 20.

【0 1 2 6】

Moreover, in Fig. 12, illustrated is an example where three types of selected difference images are displayed on the display device 65. In Fig. 12, the reference image is displayed in the upper left, and the three types of difference images are displayed in the upper right, lower left, and lower right. Numbers "1," "2," and "3" are used for the respective difference images, and by specifying this number, the player can select a difference image with which he/she plays a difference detection game.

【0 1 2 7】

Herein, although, in Fig. 12, the reference image and difference images have been drawn as if they were still images, a difference detection game of the present embodiment assumes that the game is played with animated images. In addition, since effects of the present invention are not necessarily ones that can be obtained only with animated images, the images may

be still.

【0128】

By carrying out processes of step S44 and step S45, in a difference detection game system of the present embodiment, it becomes possible to refer to utilization frequency of a player who utilizes the same, judge a game player whose utilization frequency is high to be a "frequent user," and lower the difficulty level of the game.

【0129】

10 When the process to select an image of step S45 ends, the CPU 42 immediately ends this subroutine.

【0130】

On the other hand, in step S44, if it is judged that the number of times utilized has not exceeded 30, the CPU 42 executes a process to judge as to whether or not a number of times winning prizes/a number of times utilized is greater than 0.05 (step S46).

【0131】

In the present step's process, the CPU 42 tabulates a number of times winning prizes/a number of times utilized and compares the same with a reference value of 0.05, whereby the greatness of frequency at which the player has won prizes is judged. Concretely, the CPU 42 reads out, out of the table shown in Fig. 6, numerical data recorded in the item "number of times utilized" and numerical data recorded in the item "number of times winning prizes," carries out, based on the values, a process to tabulate a number of times winning prizes/a

number of times utilized, and compares the same with a reference value of 0.05.

【0 1 3 2】

If an affirmative result is obtained in the present step,
5 this indicates that the frequency of a player's winning prizes is high, and at this time, the CPU 42 shifts the process to step S23. On the other hand, if a negative result is obtained in the present step, this indicates that the frequency of a player's winning prizes is low, and at this time, the CPU 42
10 shifts the process to step S26.

【0 1 3 3】

Herein, in the present embodiment, the numerical value of 0.05 is employed as a criterion for measuring the greatness of frequency at which the player has won prizes, however, the
15 present invention is not limited hereto, and the criterion may be set by an administrator of the difference detection game system to a desirable value. Moreover, in the present embodiment, a game condition is changed depending on the state of a player's winning "prizes," however, the present invention
20 is not limited hereto, and a game condition may be changed by the a state of a player's winning "points."

【0 1 3 4】

Next, the CPU 42 executes a process to select an image (step S47).

25 **【0 1 3 5】**

"Image selection" is a process to determine, out of a plurality of difference images prepared for the player's

answering in a difference detection game, which difference image to display for the player. Concretely, based on the difficulty level data referred to in the former step S41, the CPU 42 selects an image of a high difficulty level and displays this image on the display device 65 of the terminal device 20. When the process to select an image ends, the CPU 42 immediately ends this subroutine.

【0136】

By the above processes, in a difference detection game system of the present embodiment, it becomes possible to change a difference detection game difficulty level according to the player's utilization frequency and state of winning prizes (points).

【0137】

[Embodiment where a game picture which a player played is used as a difference image]

In the above embodiment, as the animated images used as difference images, animated images formed to use in a difference detection game system of the present invention are used, however, a difference detection game of the present invention may be performed by letting a player play some game (for example, an action game such as a racing game) in advance and then combining a reproduced picture thereof with a difference image. Hereinafter, a description will be given for an embodiment where after a player plays a racing game, the player plays a difference detection game by means of a reproduced image thereof.

【0138】

Fig. 13 is a timing chart for explaining, in a difference detection game system of the present embodiment where a picture of a game played by a player is used, an outline of signal exchanges between the server 10 and terminal device 20.

5 【0 1 3 9】

First, from the server 10 to the terminal device 20, a racing game is distributed via the Internet.

 【0 1 4 0】

10 On the terminal device 20, a player plays the racing game distributed from the server 10 and transmits data of the game contents and player information to identify the player to the server 10.

 【0 1 4 1】

15 Next, in the server 10, a process to set a difficulty level of the difference detection game is executed (step A13). This difficulty level setting process is executed based on the contents of the player information. This difficulty level setting process will be described later.

 【0 1 4 2】

20 Next, in the server 10, a process to create an image is carried out (step A14). In this process, a difference image is created based on incoming game contents data transmitted from the player's terminal device 20.

 【0 1 4 3】

25 When the process to create an image ends, a process to transmit signals to control the game from the server 10 to the terminal device 20 is executed. In the game control signals,

signals to control progress in the difference detection game according to the difficulty level set in the former step A13 are mainly included.

【0 1 4 4】

5 Next, data concerning an answer of the difference detection game is transmitted from the terminal device 20 to the server 10. The answer has been inputted by the player, who plays the difference detection game on the terminal device 20, by means of input means provided on the terminal device
10 20.

【0 1 4 5】

When answer data is received, a game result collating process is executed in the server 10 (step A15). The game result collating process refers to a process to collate as to whether
15 or not answer data transmitted from the terminal device 20 is a correct answer and to tabulate its point.

【0 1 4 6】

When the game result collating process ends, a game result is transmitted from the server 10 to the terminal device 20.

20 **【0 1 4 7】**

As in the above, in a difference detection game system according to the present embodiment, transmissions and receptions of data and signals are carried out while the server 10 and terminal device 20 are connected via a communication
25 line.

【0 1 4 8】

Next, based on Fig. 14, a description will be given of

processes to be carried out in the server 10 when a difference detection game is played based on an image of a racing game which has been played by a player.

【0149】

5 First, the CPU 42 of the server 10 carries out a process to distribute a game (step S51).

【0150】

10 In the present step's process, the CPU 42 distributes racing game data to the terminal device 20 via the communication interface 45 and the Internet. A player who has received the distributed racing game plays this game and transmits a game result to the server 10. When the process to distribute a game ends, the CPU 42 shifts the process to step S52.

【0151】

15 Next, the CPU 42 executes a process to judge as to whether or not a game result has been received (step S52).

【0152】

20 As described above, from the player who played a racing game on the terminal device 20, data related to its game result is transmitted to the server 10. The CPU 42 judges as to whether or not this game result has been received. If it is judged that the game result has not been received, the CPU 42 returns to step S52 again. On the other hand, if it is judged that the game result has been received, the CPU 42 shifts the process
25 to step S53.

【0153】

Next, the CPU 42 executes a process to identify the player

(step S53).

【0 1 5 4】

The process to identify a player refers to a process to judge, based on information (identification number data) to
5 identify a player transmitted together with a game result from the terminal device 20, as to whether or not the player is a registered player. In this process, if a player who plays a difference detection game in the terminal device 20 is a player who has already been registered, the player is identified, and
10 if he/she is a player who has not been registered yet, the player's initial registration is carried out. When the process to identify a player ends, the CPU 42 shifts the process to step S12.

【0 1 5 5】

15 Next, the CPU 42 executes a process to refer to player data (step S54).

【0 1 5 6】

The player data refers to data which is recorded for each player identified in the former step S53, and this is, concretely,
20 data as shown in Fig. 6. For this player data, in addition to identification number data indicating each player, the number of times the player has utilized difference detection games (number of times utilized), the player's age, gender, and number of times winning prizes are recorded.

25 **【0 1 5 7】**

Herein, such player data is stored and saved on the hard disk 46 of the server 10. Moreover, in the present embodiment,

although players are managed in terms of the items shown in Fig. 6, the present invention is not limited hereto. When the process to refer to player data ends, the CPU 42 shifts the process to step S55.

5 **【0158】**

Next, the CPU 42 executes a process to set a difficulty level (step S55).

【0159】

In the present step's process, the server 10 of the present invention carries out, based on the contents of player data referred to in the former step S54, a difficulty level setting to match the player's level. Concerning the details of the difficulty level setting process, the method as described above can be mentioned. When the difficulty level setting process
10 ends, the CPU 42 shifts the process to step S56.
15

【0160】

Next, the CPU 42 executes a process to create an image (step S56).

【0161】

The process to create an image refers to, as described above, a process to create a difference image based on the game result of a racing game received from the terminal device 20 in the former step S52. A difference image is created by carrying out, based on a game image of a racing game played
20 by the player, a process such as, for example, to compose a difference image or to make its racing course different from the course of the former game.
25

【0162】

In Fig. 15, examples of created difference images are shown. Fig. 15 (a) is a picture image of the racing game played by a player. On the other hand, Fig. 15 (b) is an example of
5 a difference image created based thereon. In Fig. 15 (b), by combining a factitious object image with the racing course, a difference image is created. Based on the difference image created as such, the player carries out a difference detection game. When the process to create a difference image ends, the
10 CPU 42 shifts the process to step S57.

【0163】

Next, the CPU 42 executes a game control process (step S57).

【0164】

15 The game control process refers to a process to carry out control of the whole difference detection game by transmitting control signals and data from the server 10 to the terminal device 20 based on the difficulty level set in the former step S55. Moreover, this game control process may
20 be carried out in a condition where the server 10 and terminal device 20 are connected via a communication line or may utilize a game program prepared in the server 10 by downloading from the terminal device 20. When the process to control the game ends, the CPU 42 shifts the process to step S58.

25 【0165】

Next, the CPU 42 executes a process to collate a game result (step S58).

【0166】

The process to collate a game result includes a process to collate an answer of the difference detection game transmitted from the terminal device 20 with a correct answer prepared in the server 10 and tabulate a point. In addition, the process also includes a process to transmit the collated result and tabulated point to the terminal device 20.

【0167】

The CPU 42 records answer data from the terminal device 20, which has been received via the communication interface 45, in the RAM 44, collates the same with correct answer data read out from the hard disk 46, and judges as to whether or not the answer is correct. If it is judged that the answer is correct, a point concerning the correct answer is tabulated by the CPU 42.

【0168】

Herein, in a difference detection game system of the present embodiment, a point according to a correct answer is tabulated simply based on a criterion of whether or not the answer is correct, however, the present invention is not limited hereto, and the point may be changed according to the speed at which the player elicits a correct answer, that is, the number of times of reproduction of the reference image and difference image.

25 【0169】

In addition, the tabulated point is, in response to an instruction from the CPU 42, transmitted to the terminal device

20 via the communication interface 45. Concretely, together with a message "Congratulations on your winning ○○ points!", the point is displayed on the display device 65 of the terminal device 20. Moreover, if a difference detection game system
5 such that a player can win a prize according to the point is utilized, a message such as "You won ΔΔ. Congratulations!" may be used.

【0170】

When the above processes end, the CPU 42 immediately ends
10 this subroutine.

【0171】

By carrying out a series of processes as described above, it becomes possible to let a player play two types of games, namely, to let a player play some type of game and let the player
15 play a difference detection game by means of a reproduced picture of that game. Thereby, compared to a conventional game composed of a single game, the player can experience twofold enjoyment.

【0172】

In addition, a difference detection game of the present
20 embodiment can also be played as a strategy for promoting sales of a game which is played by a player in advance.

【0173】

<<Second embodiment>>

In the above embodiment, a description is given on the
25 premise that a terminal device such as a personal computer is used as a device to execute a difference detection game system of the present invention, however, the present invention is

not limited hereto, and a difference detection game may be played on a portable terminal device such as a cellular telephone.

【0 1 7 4】

Hereinafter, by means of Fig. 16 through Fig. 20, a
5 description will be given to an embodiment where a difference detection game system of the present invention is implemented by a cellular telephone.

【0 1 7 5】

[Cellular telephone configuration]

10 A block diagram showing a configuration of a cellular telephone of a part of a difference detection game system of the present embodiment is shown in Fig. 16.

【0 1 7 6】

As shown in Fig. 16, to a data bus of the cellular telephone
15 30 according to the present embodiment, connected are a CPU 51, a memory 52, an RF (transmitting/receiving circuit part) 55 for signal transmissions and receptions with its base station, a base band processing part 56 for converting an RF signal received at the transmitting/receiving circuit part 55 to a
20 base band signal and converting a base band signal to be transmitted to an RF signal, an input/output part 57 being an interface with a microphone 58 and a speaker 59, a display 54 composed of a liquid crystal panel or the like, and an inputting operation part 53 formed of a keyboard and a jog dial and the
25 like.

【0 1 7 7】

The CPU 51 is structured so as to carry out various actions

according to action programs stored in the memory 52 and controls the respective circuit portions according to such actions. The contents of various processes of the CPU 51 are displayed on the display 54 as necessary.

5 **【0178】**

In addition, the CPU 51 converts various types of information (character information, information on a specific selection, etc.) inputted by a user's operation of the inputting operation part 53 to packet data, and then transmits the same
10 to the server 10 via the base band processing part 56 and RF (transmitting/receiving circuit part) 55.

【0179】

In addition, the CPU 51 takes in an RF signal, on which has been superimposed packetized data information transmitted
15 from the server 10 via a packet network/PDC network (not shown), via the transmitting/receiving circuit part 55 and the base band processing part 56, pieces the packetized data together so as to return to their original data form, and then displays the same on the display 54.

20 **【0180】**

Thus, a user of the cellular telephone 30 can transfer various types of information with the server 10. Upon request (a request concerning a required amount of information and frequency) of the cellular telephone 30, the server 10 transmits
25 a difference detection game to the cellular telephone 30.

【0181】

[Action]

Next, based on a timing chart of Fig. 17, a description will be given of actions carried out between the server 10 and cellular telephone 30 of a difference detection game system according to the present embodiment.

5 **【0182】**

First, when a difference detection game is started, player information to identify a player who plays the game on that cellular telephone 30 is transmitted from the cellular telephone 30 to the server 10.

10 **【0183】**

Next, in the server 10, a process to set a difficulty level of the difference detection game is carried out (step A16). This difficulty level setting process is executed based on the contents of the player information. This difficulty level setting process is carried out based on the method as described above.

【0184】

When the process to set a difficulty level ends, a process to transmit signals to control the game from the server 10 to cellular telephone 30 is executed. In the game control signals, signals to control progress in the difference detection game according to the difficulty level set in the former step A16 are mainly included.

【0185】

25 Next, in the cellular telephone 30, an image operating process is carried out (step A17). The image operating process is, as will be described later, a process required when the

player plays a difference detection game by means of a small display screen of the cellular telephone 30. The details of the image operating process will be described later.

【0186】

5 Next, data concerning an answer of the difference detection game is transmitted from the cellular telephone 30 to the server 10. The answer has been inputted by the player, who plays the difference detection game on the cellular telephone 30, by means of an input operating part 53 provided on the cellular
10 telephone 30.

【0187】

When answer data is received, a game result collating process is executed in the server 10 (step A18). The game result collating process refers to a process to collate as to whether
15 or not answer data transmitted from the cellular telephone 30 is a correct answer and to tabulate its point.

【0188】

When the game result collating process ends, a game result is transmitted from the server 10 to the cellular telephone
20 30.

【0189】

As in the above, in a difference detection game system according to the present embodiment, transmissions and receptions of data and signals are carried out while the server
25 10 and cellular telephone 30 are connected via the a communication line.

【0190】

[Server processes]

Next, based on a flowchart of Fig. 18, a description will be given of processes carried out in the server 10 of a difference detection game system according to the present embodiment.

5 【0191】

First, the CPU 42 of the server 10 executes a process to identify a player (step S61).

 【0192】

10 The process to identify a player refers to a process to judge, based on information (identification number data) to identify a player transmitted from the cellular telephone 30, as to whether or not the player is a registered player. In this process, if a player who plays a difference detection game in the cellular telephone 30 is a player who has already been
15 registered, the player is identified, and if he/she is a player who has not been registered yet, the player's initial registration is carried out. When the process to identify a player ends, the CPU 42 shifts the process to step S62.

 【0193】

20 Next, the CPU 42 executes a process to refer to player data (step S62).

 【0194】

25 The player data refers to data which is recorded for each player identified in the former step S61, and this is, concretely, as shown in the foregoing Fig. 6. In this player data, as shown in Fig. 6, in addition to identification number data indicating each player, the number of times the player has utilized

difference detection games (number of times utilized), the player's age, gender, and number of times winning prizes have been recorded.

【0195】

5 Herein, such player data is stored and saved on the hard disk 46 of the server 10. Moreover, in the present embodiment, although players are managed in terms of the items shown in Fig. 6, the present invention is not limited hereto.

【0196】

10 When the process to refer to player data ends, the CPU 42 shifts the process to step S63.

【0197】

Next, the CPU 42 executes a process to set a difficulty level (step S63).

15 **【0198】**

A "difficulty level" refers to an evaluation with an index of easiness in eliciting correct answers in a difference detection game. Herein, a "difficulty level" used in the present embodiment is not expressed as a concrete numerical value but is absolutely evaluated by rule of thumb.

20 **【0199】**

In the present step's process, the server 10 of the present embodiment carries out, based on the contents of player data referred to in the former step S62, a difficulty level setting to match the player's level. The details of the difficulty level setting process will be described later. When the difficulty level setting process ends, the CPU 42 shifts the

process to step S64.

【0200】

Next, the CPU 42 executes a game control process (step S64).

5 【0201】

The game control process refers to a process to carry out control of the whole difference detection game by transmitting control signals and data from the server 10 to the cellular telephone 30 based on the difficulty level set
10 in the former step S63. Moreover, this game control process may be carried out in a condition where the server 10 and cellular telephone 30 are connected via a communication line or may utilize a game program prepared in the server 10 by downloading from the cellular telephone 30. When the process to control
15 the game ends, the CPU 42 shifts the process to step S65.

【0202】

Next, the CPU 42 executes a process to collate a game result (step S65).

【0203】

20 The process to collate a game result includes a process to collate an answer of the difference detection game transmitted from the cellular telephone 30 with a correct answer prepared in the server 10 and tabulate a point. In addition, the process also includes a process to transmit the collated result and
25 tabulated point to the cellular telephone 30.

【0204】

The CPU 42 records answer data from the cellular telephone

30, which has been received via the communication interface 45, in the RAM 44, collates the same with correct answer data read out from the hard disk 46, and judges as to whether or not the answer is correct. If it is judged that the answer is correct, a point concerning the correct answer is tabulated by the CPU 42.

【0205】

Herein, in a difference detection game system of the present embodiment, a point according to a correct answer is tabulated simply based on a criterion of whether or not the answer is correct, however, the present invention is not limited hereto, and the point may be changed according to the speed at which the player elicits a correct answer, that is, the number of times of reproduction of the reference image and difference image.

【0206】

In addition, the tabulated point is, in response to an instruction from the CPU 42, transmitted to the cellular telephone 30 via the communication interface 45. Concretely, together with a message "Congratulations on your winning ○○ points!," the point is displayed on the display 54 of the cellular telephone 30. Moreover, if a difference detection game system such that a player can win a prize according to the point is utilized, a message such as "You won ΔΔ. Congratulations!" may be used.

【0207】

When the above processes end, the CPU 42 immediately ends

this subroutine.

【0208】

[Cellular telephone processes]

Next, with reference to Fig. 19, a description will be
5 given of processes carried out in the cellular telephone 30.

【0209】

The CPU 51 of the cellular telephone 30 executes a process
to judge as to whether or not images have been received (step
S71).

10 **【0210】**

The images mean a reference image for reference in
difference detection and a difference image. These images are,
in the present embodiment, animated images as described above
and are distributed from the server 10 via a communication line.
15 If it is judged that the images have not been received, the
CPU 51 carries out a determination of step S71 again. On the
other hand, if it is judged that the images have been received,
the CPU 51 shifts the process to step S72.

【0211】

20 Next, the CPU 51 executes a process to display images
(step S72).

【0212】

The process to display images refers to a process to display
images received in the former step S71 on the display 54 of
25 the cellular telephone 30. This image displaying process is,
as described above, for displaying these images on the display
54 in accordance with switching timing determined in the server

10. When the process to display images ends, the CPU 51 shifts the process to step S73.

【0 2 1 3】

Next, a process to judge as to whether or not a game has
5 been finished is executed (step S73).

【0 2 1 4】

A determination as to whether or not a game has been finished is carried out based on whether or not the CPU 51 has ended processes to switch over images. In a difference detection
10 game of the present embodiment, a time or a number of times in which images are displayed for the player has been set, and when this predetermined time or number of times is completed, the process to display images on the display 54 is finished. Thereby, the CPU 51 detects that the game has been finished.
15 If it is judged that the game has not been finished, the CPU 51 carries out a process of step S73 again. On the other hand, if it is judged that the game has been finished, the CPU 51 shifts the process to step S74.

【0 2 1 5】

20 Next, the CPU 51 executes an image operating process (step S74).

【0 2 1 6】

The image operating process is, as described above, a process carried out since the display screen that corresponds
25 to the display 54 of the cellular telephone 30 is too small to play a difference detection game, and is carried out by a player's operation of the inputting operation part 53.

【0 2 1 7】

In Fig. 20, examples of difference images displayed on the display 54 of the cellular telephone 30 are shown. Fig. 20 (a) is an example where a difference image is displayed on the display 54. As shown in Fig. 20 (a), a cursor 71 is displayed in the difference image. The player can shift this cursor 71 by operating the inputting operation part 53 of the cellular telephone 30 and can display the screen in the vicinity of the cursor 71 in an enlarged manner further by operating to depress the inputting operation part 53. Fig. 20 (b) is a display example when the difference image is enlarged at a cursor 71 position shown in Fig. 20 (a).

【0 2 1 8】

By such a configuration, in a difference detection game system of the present embodiment, a difference detection game can be enjoyed even on a cellular telephone with a small display screen. In addition, by enabling playing a difference detection game on portable terminal devices including cellular telephones, it becomes possible that a player enjoys playing the game anytime anywhere when he/she likes.

【0 2 1 9】

Next, the CPU 51 executes a process to judge as to whether or not an answer has been inputted (step S75).

【0 2 2 0】

In a difference detection game of the present invention, as described above, a difference detection game is played with animated images. When a player inputs an answer of the

difference detection game, this is carried out in such a manner as to stop, when a difference is displayed in the animated image, the image at this part and point out the difference part by an operation of the inputting operation part 53.

5 **【0 2 2 1】**

In the present step, the CPU 51 judges as to whether or not the player playing the difference detection game has inputted an answer of the game through the inputting operation part 53 of the cellular telephone 30. If it is judged that no answer
10 has been inputted, the CPU 51 carries out a determination of step S75 again. On the other hand, if it is judged that an answer has been inputted, the CPU 51 shifts the process to step S76.

【0 2 2 2】

15 Next, the CPU 51 executes a process to transmit an answer (step S76).

【0 2 2 3】

In the present step, answer data inputted by the player in step S75 is transmitted to the server 10. When the process
20 to transmit an answer ends, the CPU 51 shifts the process to step S77.

【0 2 2 4】

Next, the CPU 51 shifts to a standby mode for a game result (step S77).

25 **【0 2 2 5】**

Herein, the "game result" refers to an incoming game result which is transmitted from the server 10 in response to a player's

answer transmitted to the server 10 in the former step S76,
that is, whether or not the answer was correct, and a point
if the answer was correct. In the present step, the cellular
telephone 30 is in a standby mode for this incoming game result
5 transmitted from the server 10.

【0 2 2 6】

Next, the CPU 51 executes a process to judge as to whether
or not a game result has been received (step S78).

【0 2 2 7】

10 In the present step, if it is judged that a game result
has not been received, the CPU 51 returns the process to step
S77 again and shifts to a standby mode for a game result. On
the other hand, in the present step, if it is judged that a
game result has been received, the CPU 51 displays the game
15 result on the display 54 of the cellular telephone 30 then
immediately ends this subroutine.

【0 2 2 8】

By carrying out the above processes, a difference
detection game system of the present invention can be of a
20 configuration where a cellular telephone user can play a
difference detection game anytime anywhere. Moreover, in the
above-described embodiment, a description has been given in
a case where a cellular telephone is used in a difference
detection game system of the present invention, however, the
25 present invention is not limited hereto, and a portable terminal
device such as a PDA may be used.

【0 2 2 9】

[Effect of the Invention]

According to the present invention, a game server being capable of transmitting and receiving data to and from a plurality of user terminal devices via a communication line
5 can be provided to include point providing means for providing a point to a player on receipt of a correct answer from the player with a difference detection game executed on a display provided to each of the user terminal devices; and image display means for displaying simultaneously on the display a reference
10 image for reference and a plurality of difference images to find differences.

[Brief Description of the Drawings]

[Fig. 1] It is a schematic diagram showing an outline of the whole system for a difference detection game according
15 to the present invention.

[Fig. 2] It is a block diagram showing a configuration of a game server of a part of a system for a difference detection game according to an embodiment of the present invention.

[Fig. 3] It is a block diagram showing a configuration
20 of a terminal device of a part of a system for a difference detection game according to an embodiment of the present invention.

[Fig. 4] It is a timing chart for explaining data exchanges between a server and a terminal device of a system for a difference
25 detection game according to an embodiment of the present invention.

[Fig. 5] It is a flowchart of a control process executed

by a server according to an embodiment of the present invention.

[Fig. 6] It is an example of a player information database recorded on a server of an embodiment of the present invention.

[Fig. 7] It is a flowchart of a control process executed
5 by a server according to an embodiment of the present invention.

[Fig. 8] It is an example of a reference image displayed on a display of a terminal device according to an embodiment of the present invention.

[Fig. 9] It is an example of an image displayed on a display
10 of a terminal device according to an embodiment of the present invention.

[Fig. 10] It is a flowchart of a control process executed by a terminal device according to an embodiment of the present invention.

15 [Fig. 11] It is a flowchart of a control process executed by a server according to an embodiment of the present invention.

[Fig. 12] It is an example of images displayed on a display of a terminal device according to an embodiment of the present invention.

20 [Fig. 13] It is a timing chart for explaining data exchanges between a server and a terminal device of a system for a difference detection game according to an embodiment of the present invention.

[Fig. 14] It is a flowchart of a control process executed
25 by a server according to an embodiment of the present invention.

[Fig. 15] It is an example of a reference image displayed on the display of a terminal device according to an embodiment

of the present invention.

[Fig. 16] It is an example of a difference images displayed on the display of a terminal device according to an embodiment of the present invention.

5 [Fig. 17] It is a block diagram showing a configuration of a cellular telephone of a part of a system for a difference detection game according to an embodiment of the present invention.

[Fig. 18] It is a timing chart for explaining data exchanges
10 between a server and a cellular telephone of a system for a difference detection game according to an embodiment of the present invention.

[Fig. 18] It is a flowchart of a control process executed by a server of an embodiment of the present invention.

15 [Fig. 19] It is a flowchart of a control process executed by a cellular telephone of an embodiment of the present invention.

[Fig. 20] It is an example of a difference image displayed on a display of a cellular telephone according to an embodiment
20 of the present invention.

[Description of Numerical reference]

10 server

20 terminal device

25 portable terminal device

25 30 cellular telephone

42,51,61 CPU

43,62 ROM

44,63 RAM
45 communication interface
46 hard disk
53,67 inputting operation part
5 54 display
55 RF
66 communication interface circuit

[Document title] Abstract

[Abstract]

[Problem to be Solved] To provide a difference detection game which enriches variations in this difficulty level setting and acquiring points and enables a player to enjoy without growing tired of it.

[Solution] A game server which is constructed so as to allow a player to play a difference detection game on a display of a terminal device connected to the server via a communication line, provides a point to a player on receipt of a correct answer from the player with a difference detection game executed on a display provided to each of the user terminal devices, and displays simultaneously on the display a reference image for reference and a plurality of difference images to find differences is provided.

[Selected Drawing] Fig. 11

1 / 19
Fig. 1

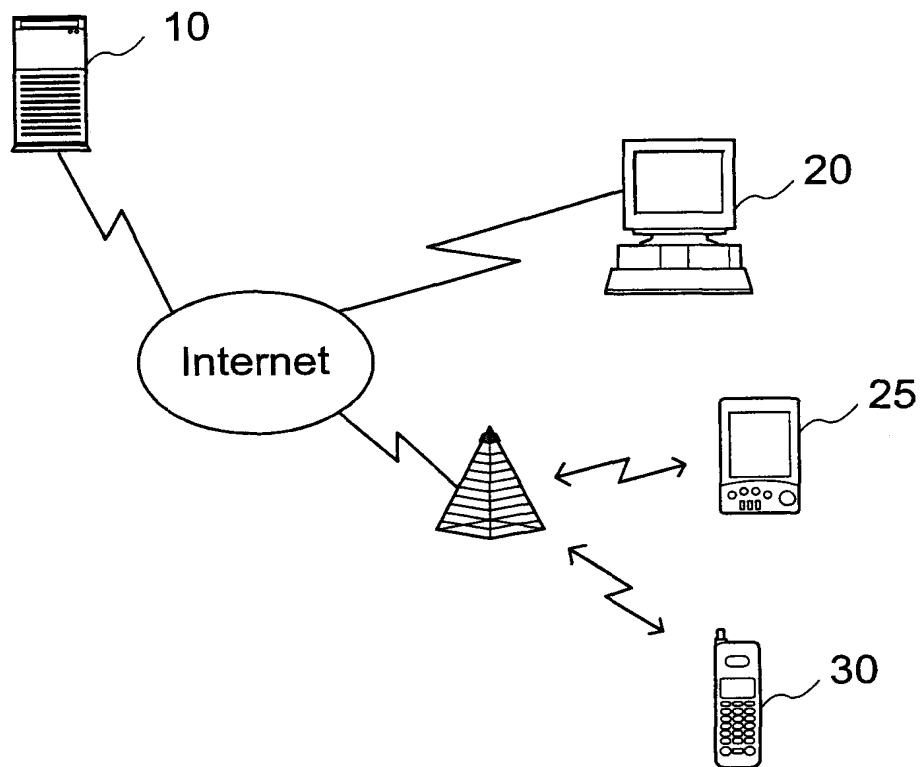


Fig. 2

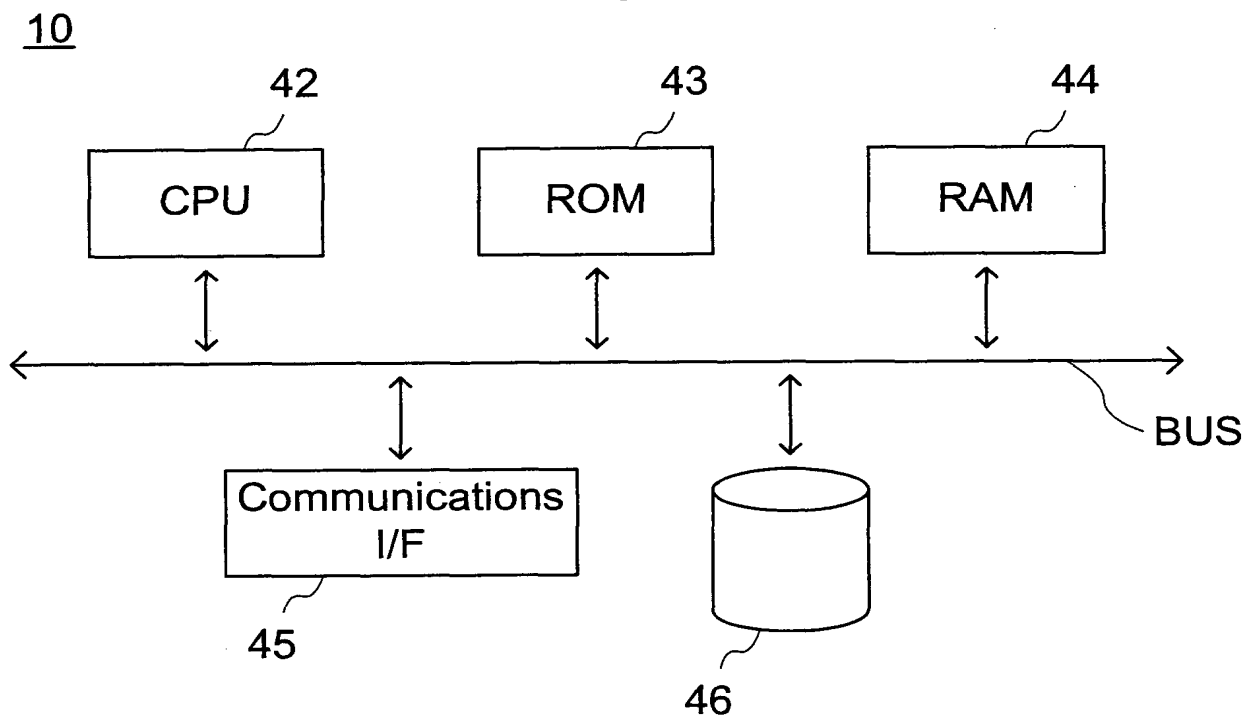


Fig. 3

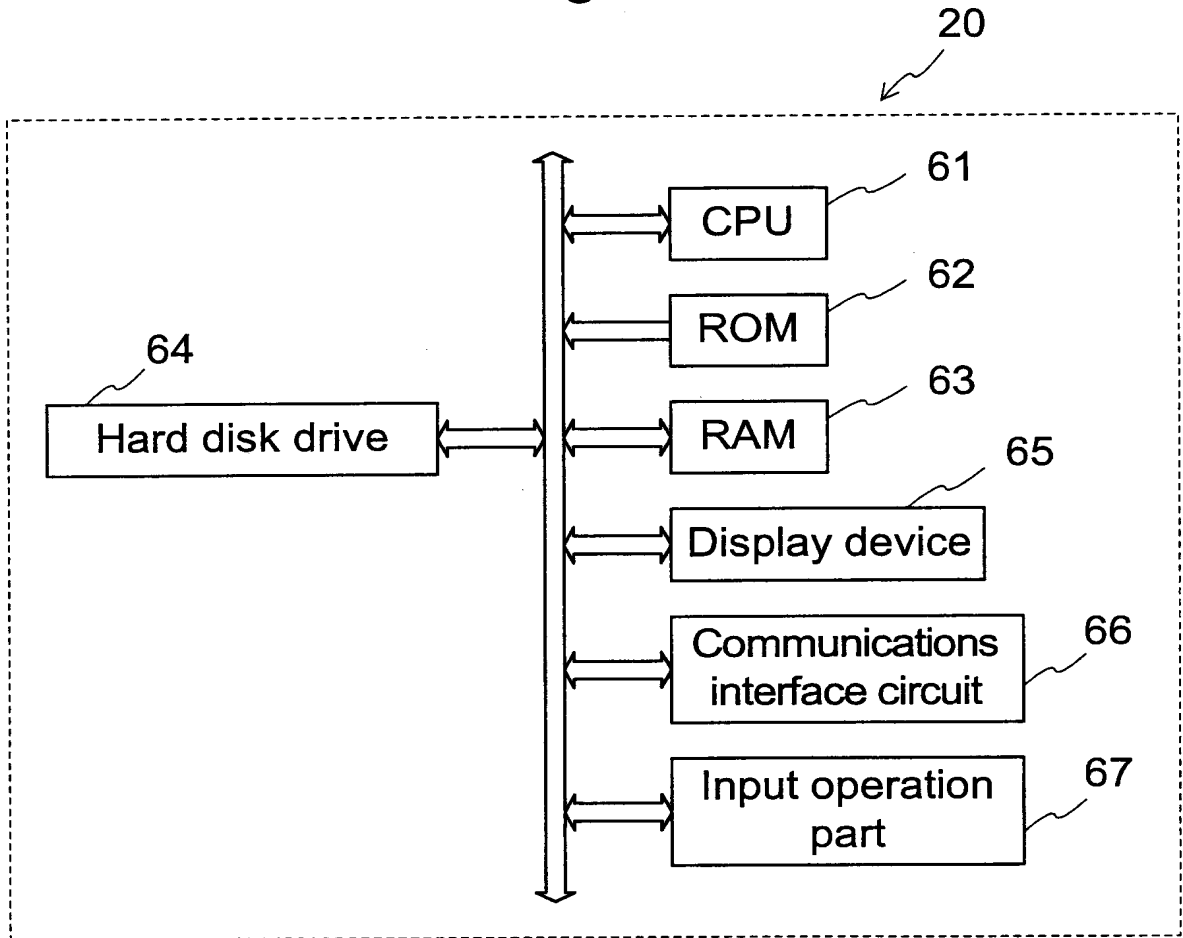


Fig. 4

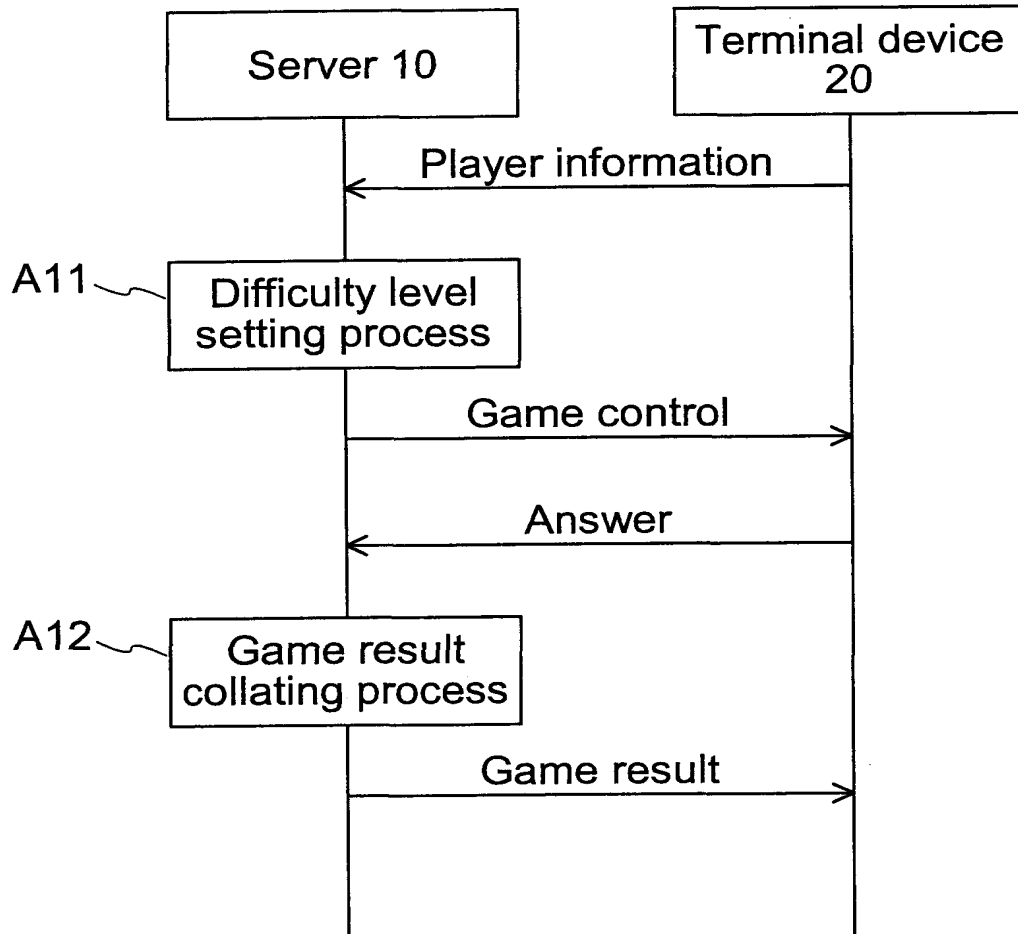


Fig. 5

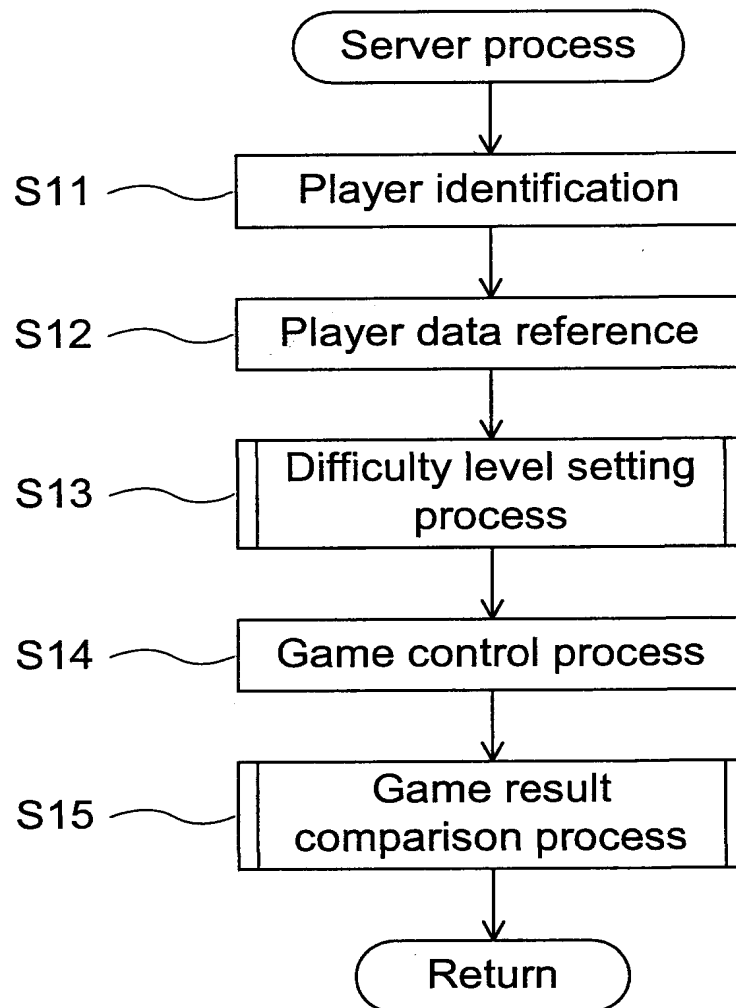


Fig. 6

Player	Number of times played	Age	Gender	Number of times winning prize
01-0001	72	21	0	8
01-0007	65	23	1	3
03-0013	51	31	1	7
05-0143	31	19	0	9
05-0213	28	42	1	1
07-1311	7	49	1	0

Fig. 7

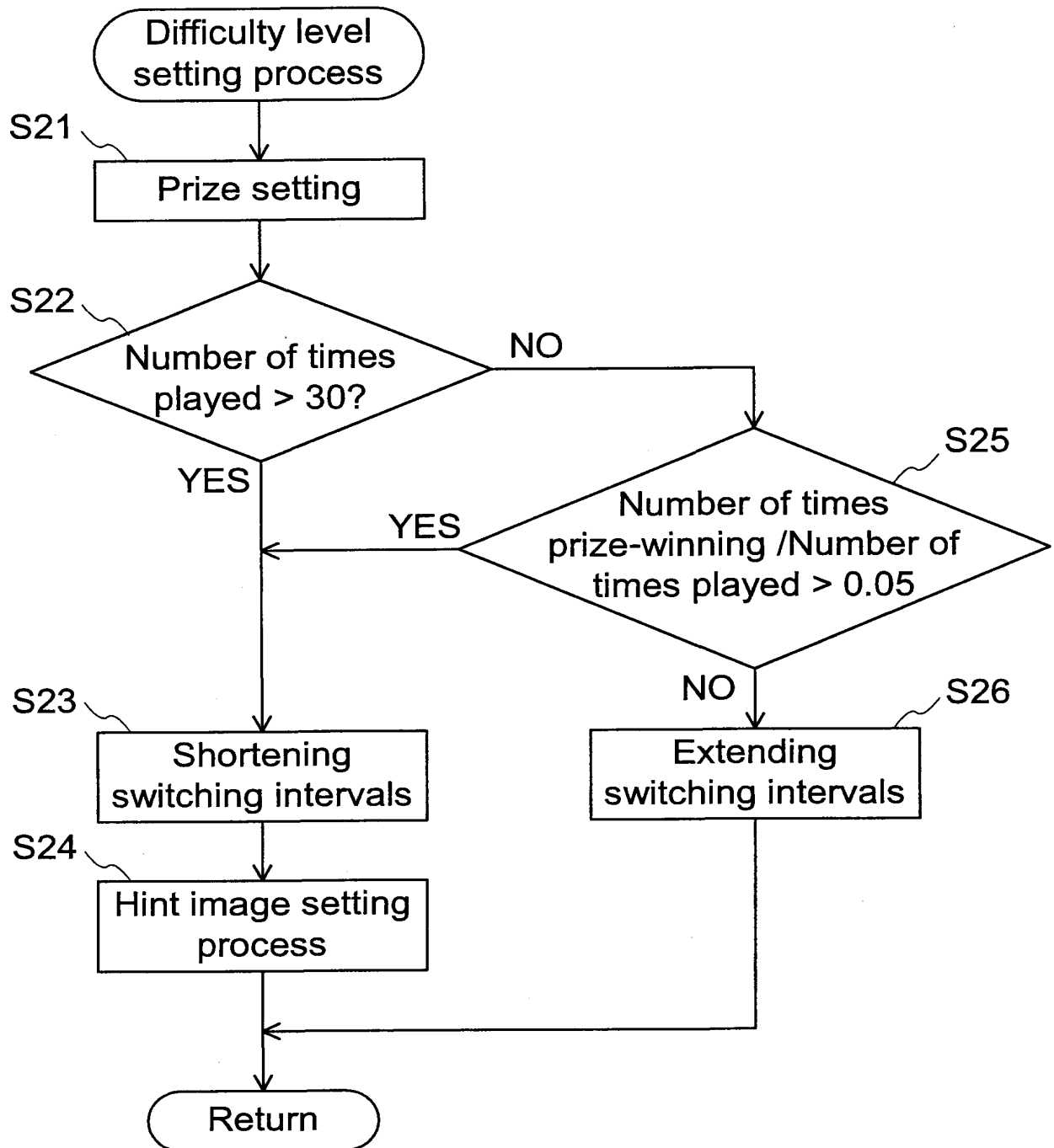


Fig. 8 (a)

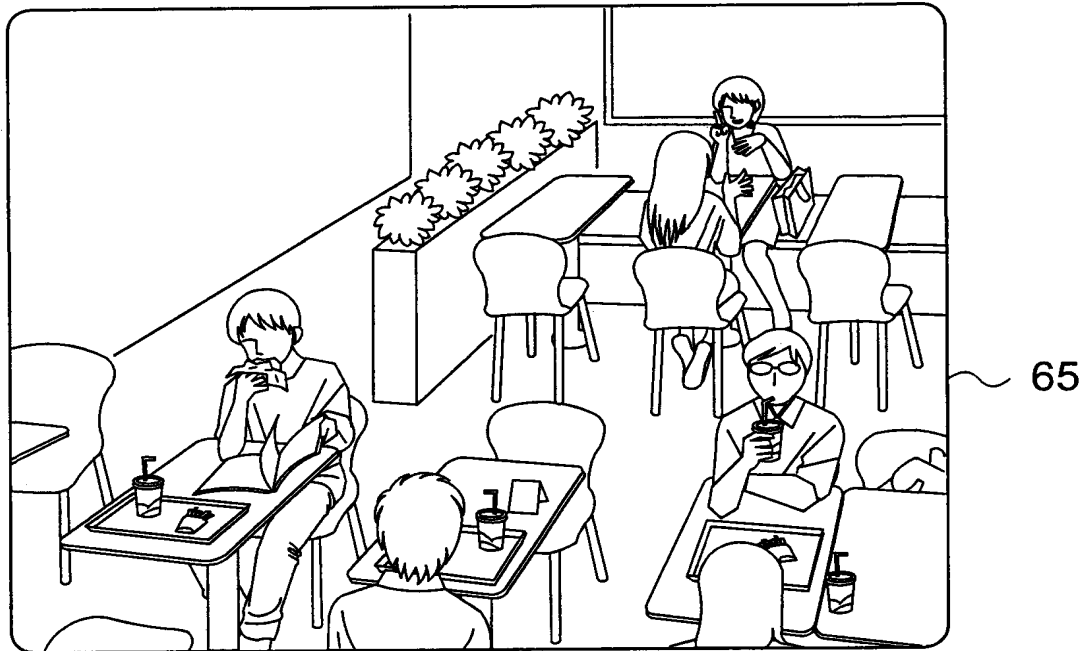


Fig. 8 (b)

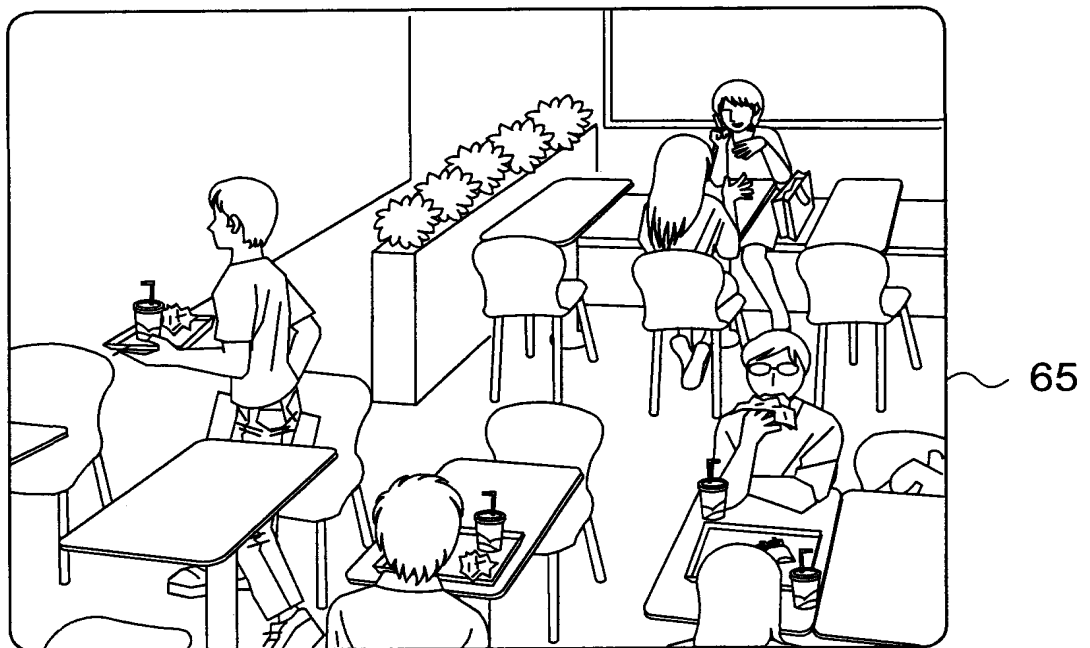


Fig. 9

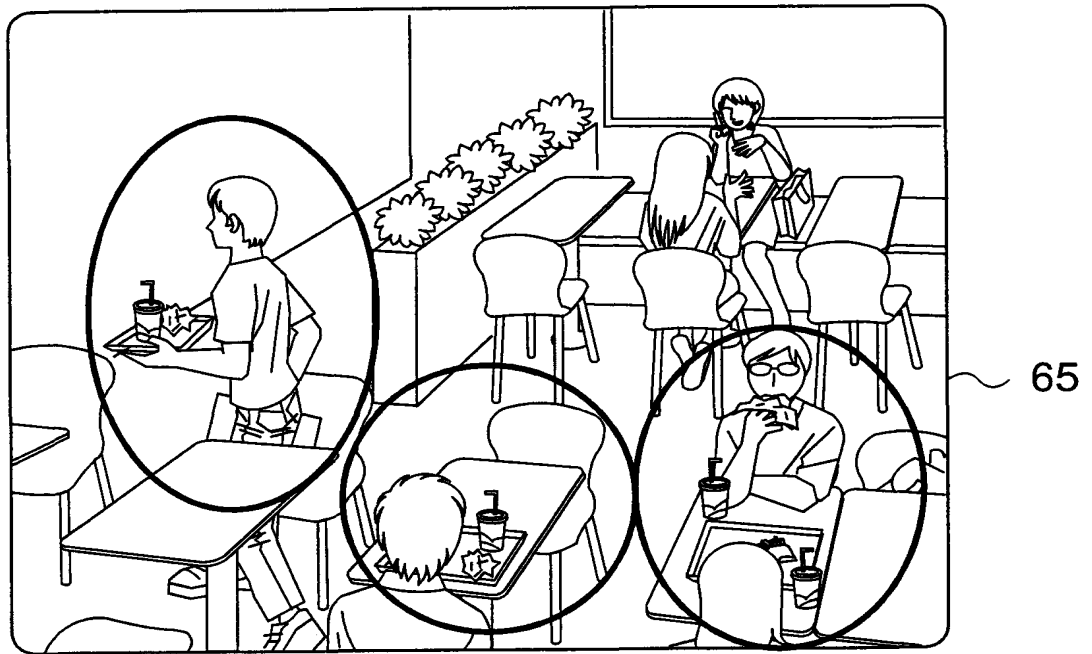


Fig. 10

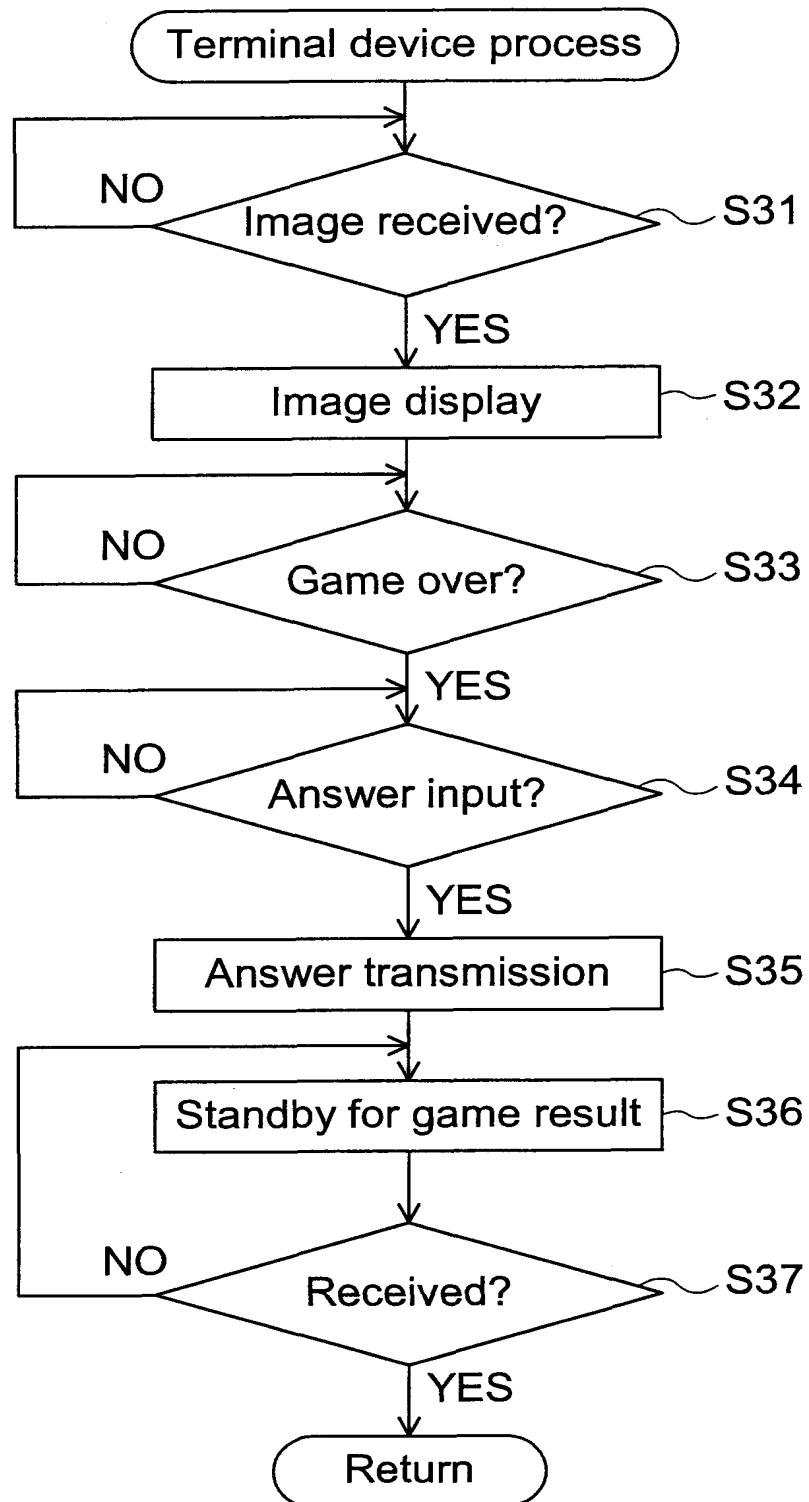


Fig. 11

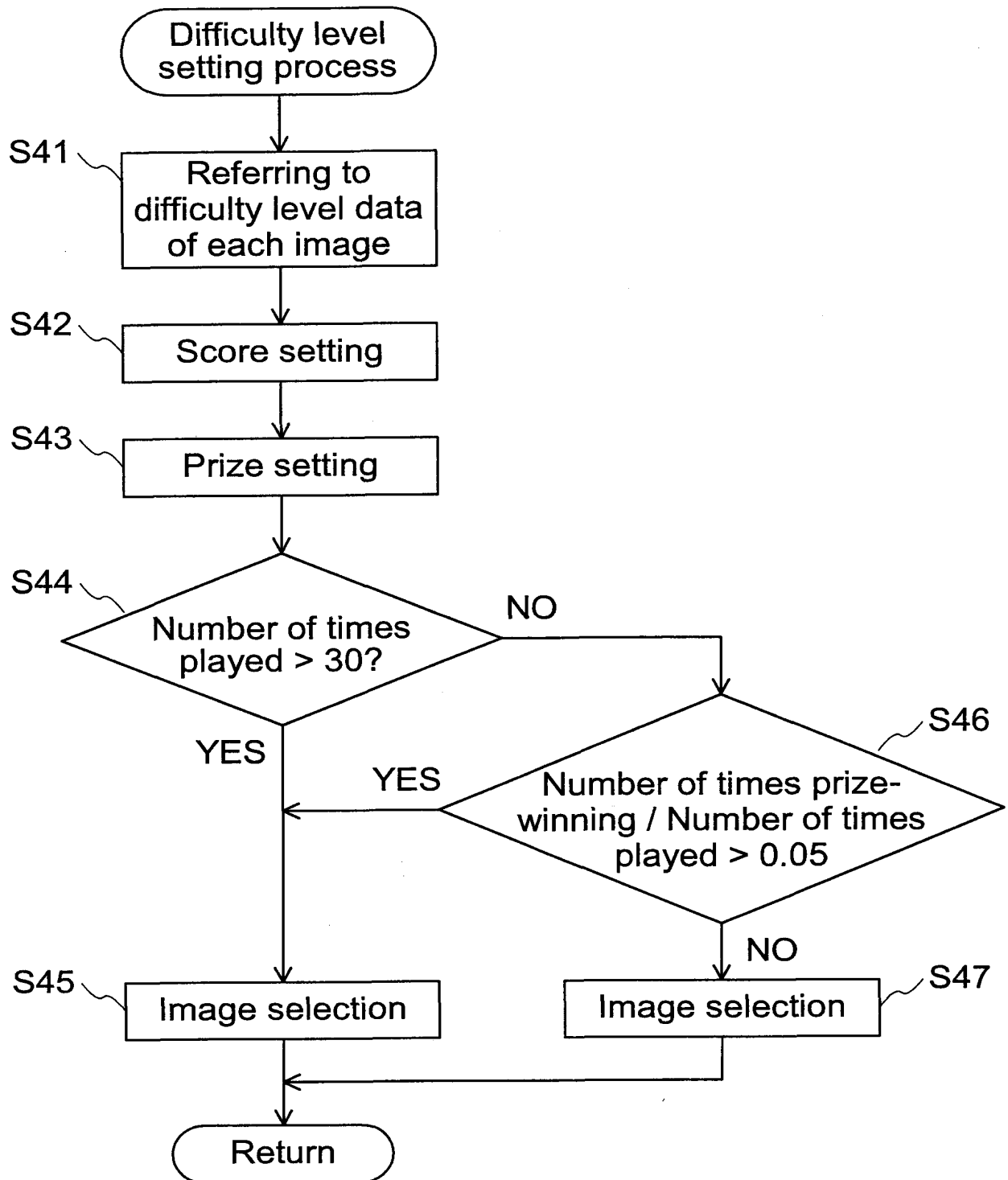


Fig. 12

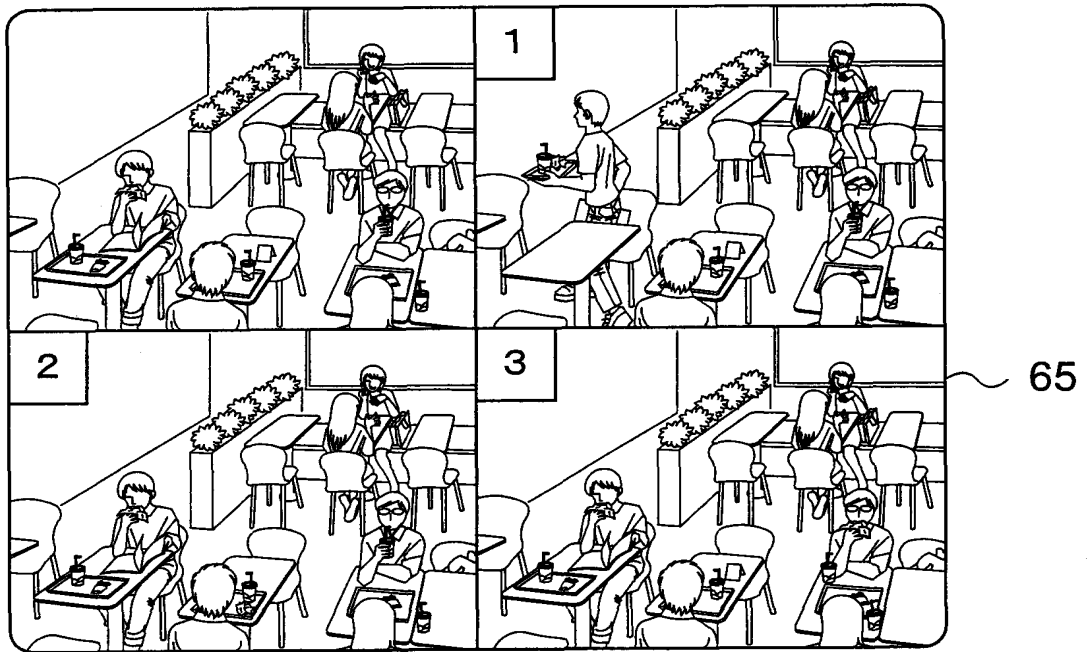


Fig. 13

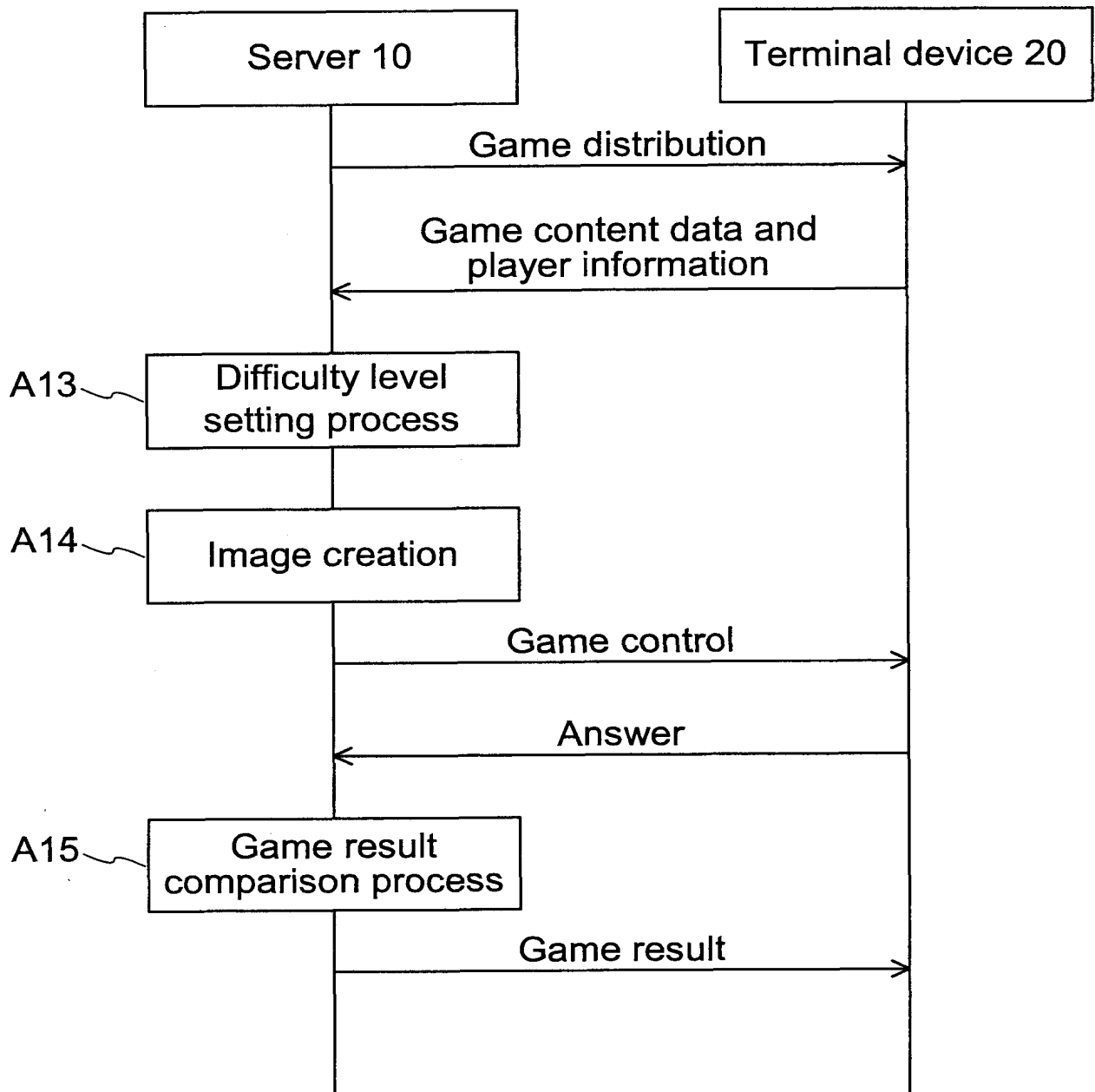


Fig. 14

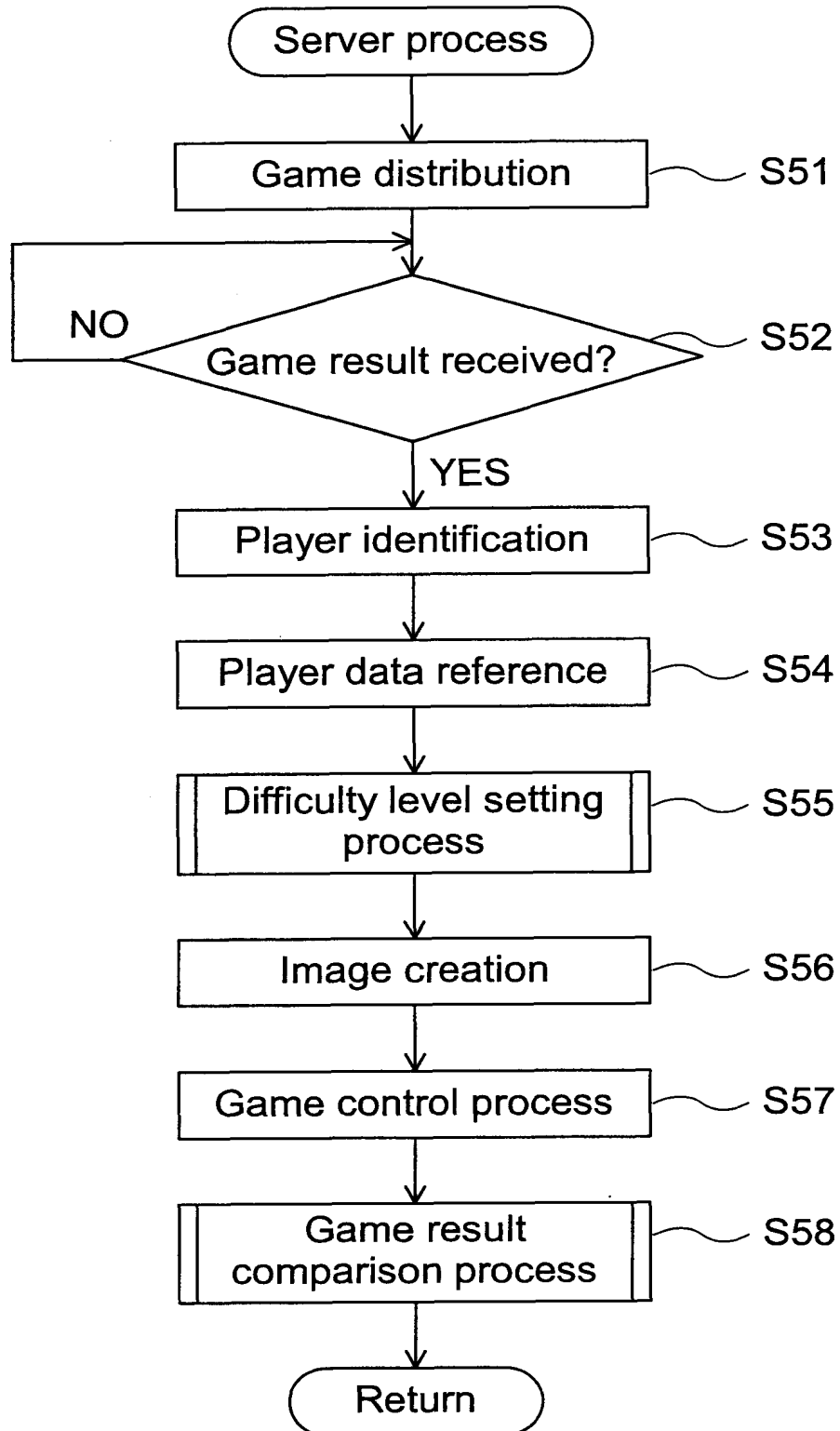


Fig. 15 (a)

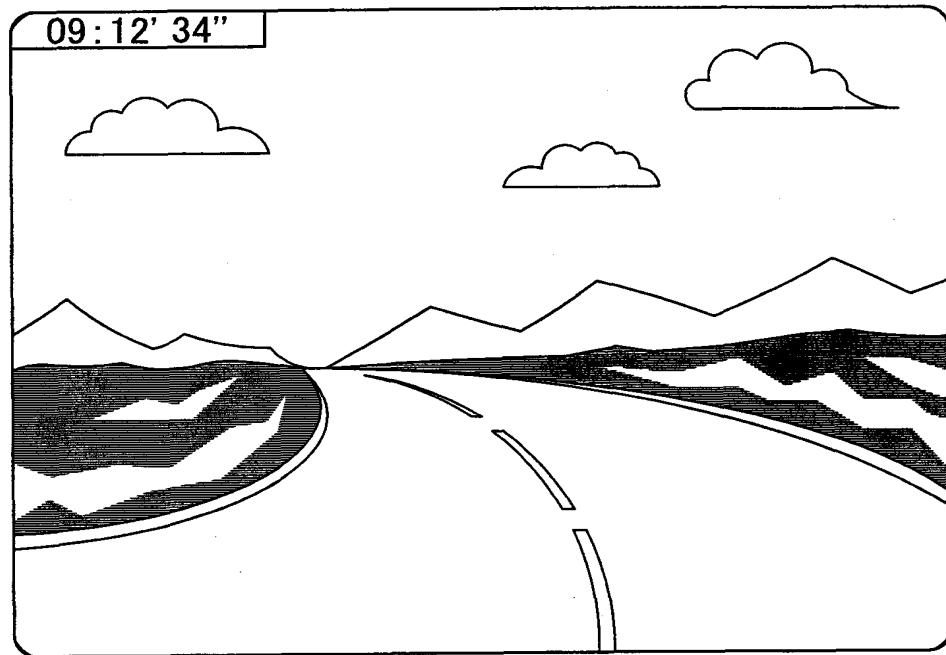


Fig. 15 (b)

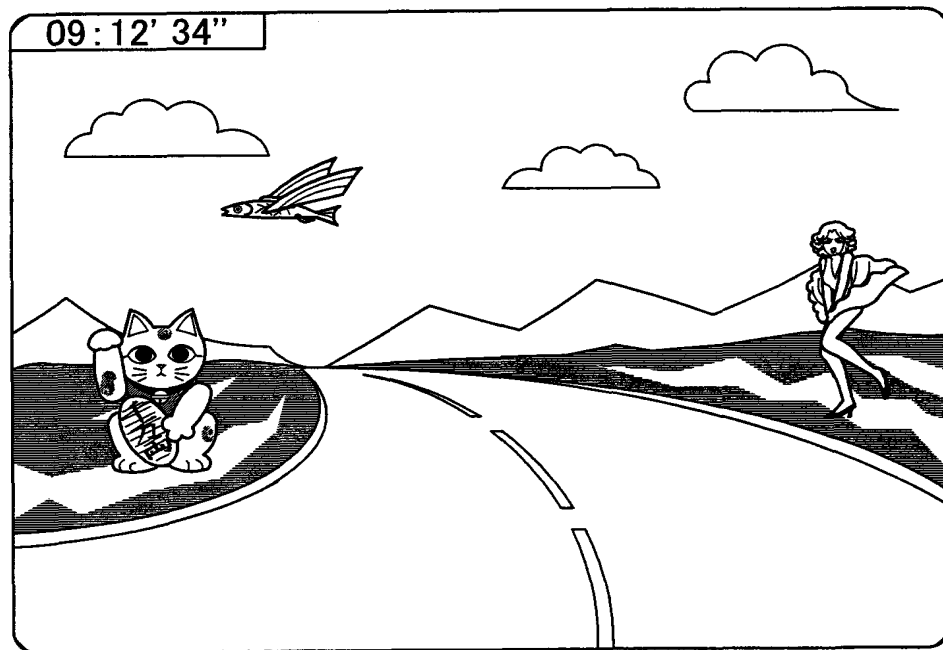


Fig. 16

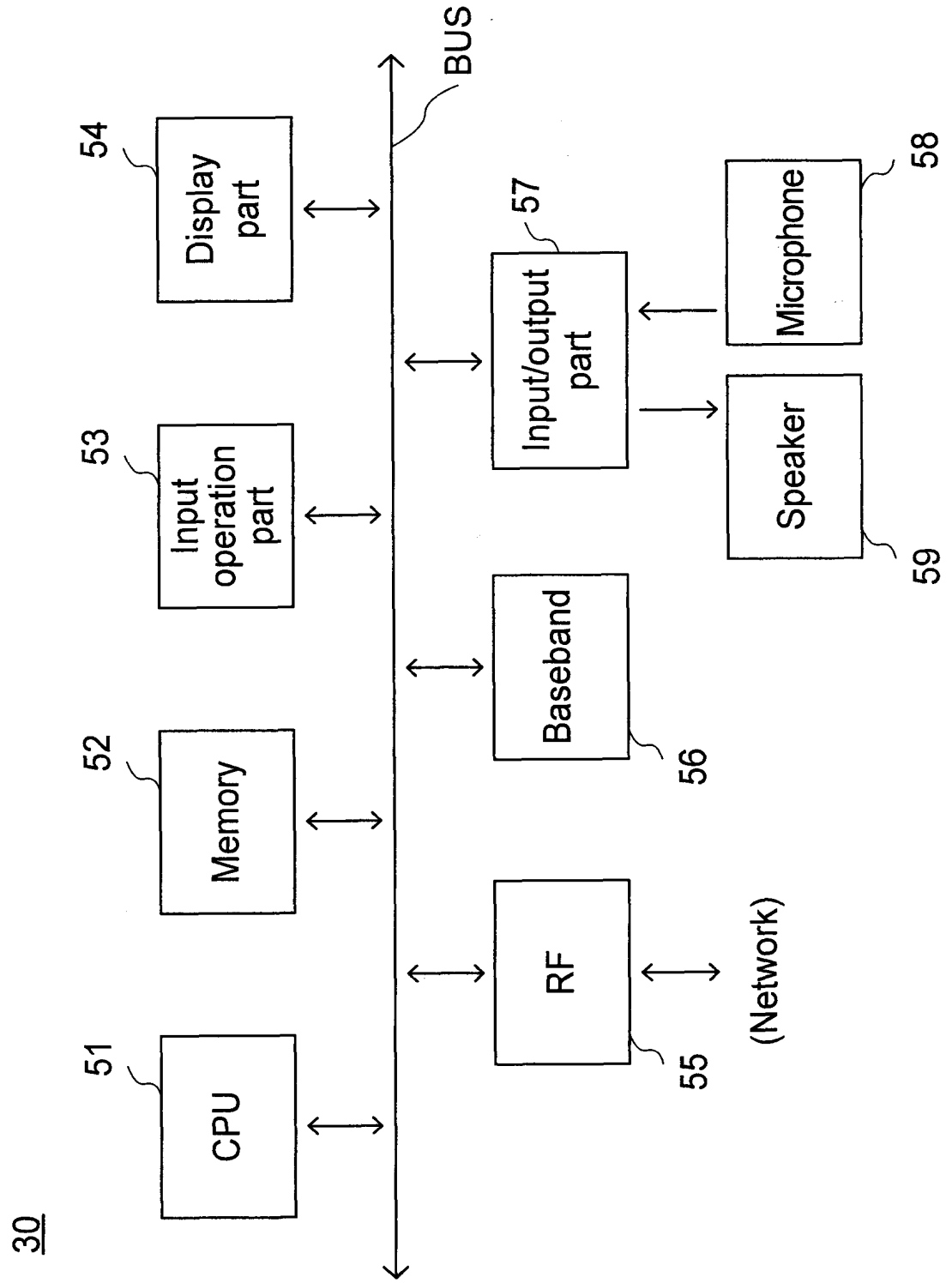


Fig. 17

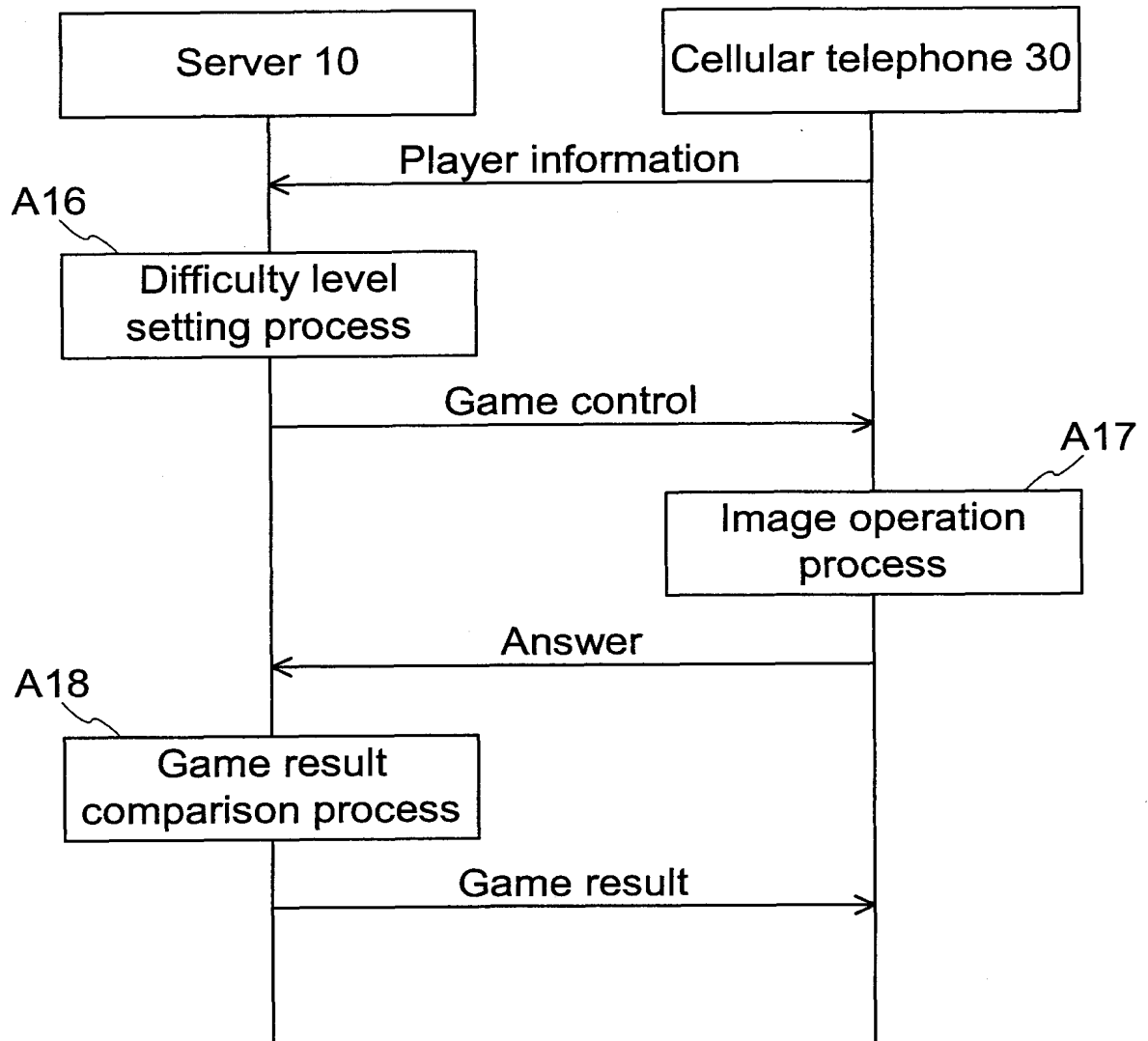


Fig. 18

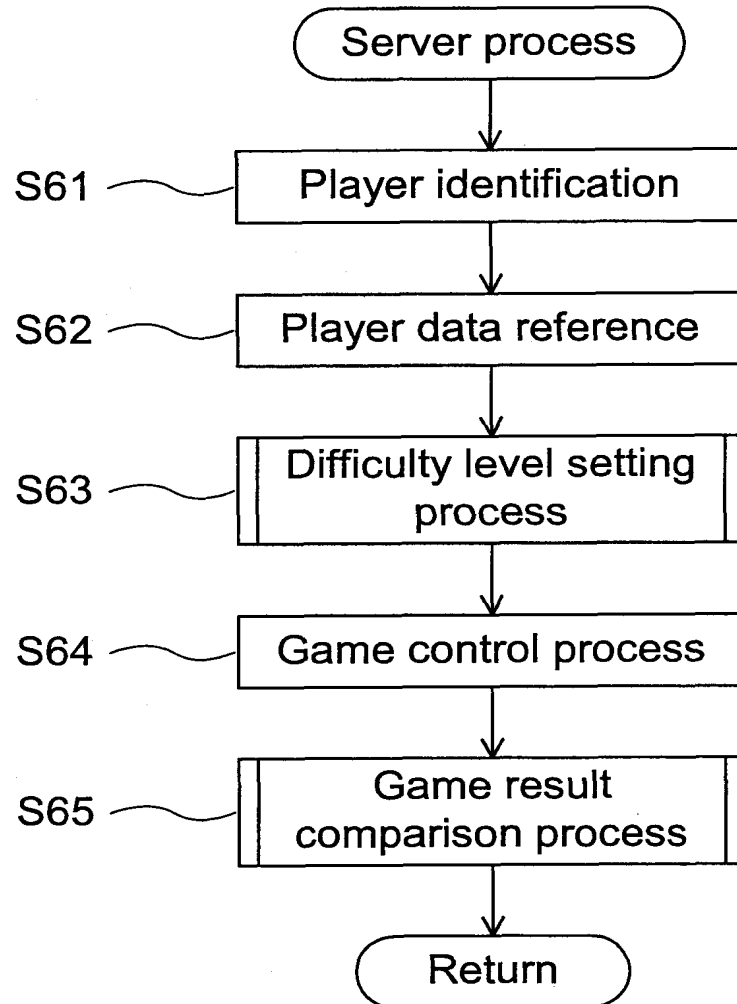


Fig. 19

